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Picture Newsprint Industry in Desperate Need

At the Hearing at Washington Last Week Before Deputy Administrator W. W. Pickard Publishers on the Other Hand Assail Recommendations of the Code Authority for the Newsprint Industry for Stabilization and Elimination of Unfair Practices and Destructive Price Competition as "Proposing to Set Up a Monopoly"

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., February 7, 1934.—Conflicting pictures of "an industry in desperate need" and of an industry "purposing to set up a monopoly" were presented at public hearing last week on proposed recommendations by the Code Authority of the newsprint industry in respect of the stabilization of that industry and the elimination of unfair practices and destructive competitive prices. The hearing was conducted by Deputy Administrator W. W. Pickard, in the Fairfax Room of the Willard Hotel.

Code Authority Rickard Presents Recommendations

Edgar Rickard, chairman of the Code Authority of the Newsprint Industry, presented the recommendations and made a lengthy statement in their support. After pointing out that the code approved by the President on November 17, 1933, did not provide for any protection to American mills with respect to imports from abroad, Mr. Rickard stated that "with supply far exceeding the existing demand," there had been "an irresistible pressure on the part of individual companies to secure as large a volume of sales as possible."

This, he charged, had led to destructive price-cutting, with newsprint selling below the actual cost of production for nearly all mills. Newsprint has been offered and sold in the United States at from $30.00 to $32.00 per ton, he said, and in some instances has been offered on a guaranteed differential of $8.00 per ton lower than any price that might be quoted from time to time by leading producers in the United States.

Figures submitted by 24 companies in the United States and covering substantially all the newsprint produced in this country during the first six months of 1933 showed a cost of $43.28 per ton for production, as compared with the present price of $40.00 per ton for newsprint delivered at New York City and Chicago, Mr. Rickard said. He went on to point out that this cost figure did not include any interest paid upon indebtedness, nor any return whatever on capital invested.

Increase in Cost of Manufacturing

The increase in the cost of manufacturing newsprint in the United Statess in December, 1933, Mr. Rickard asserted, as compared with May, 1933, was estimated to have been $4.15 per ton. This increased cost, he declared, cannot be maintained unless the industry can be stabilized, as the spread between cost and revenue was "certain to be materially widened during the year 1934."

Mr. Rickard stated that mills having 58 per cent of the total Canadian capacity, and 39 per cent of the total North American capacity, were in bankruptcy or receivership, or were passing through some form of re-organization. If the present conditions continue, he declared, the United States mills can only expect the same fate as those in Canada; and a corresponding collapse of American mills would mean the final disappearance of the industry from the United States.

After stating that the capital investment in the newsprint industry in the United States approximated $300,000,000 and that the amount of American capital invested in the newsprint industry in Canada was "probably in the vicinity of $400,000,000," Mr. Rickard pointed out that collapse of the industry would cause a great loss to "hundreds of thousands of American investors," and that the effect upon labor would be "even more distressing" since it would be impossible for the manufacturers to maintain the wage scale and hours of labor required by the Newsprint Code unless something was done to stabilize the industry. Virtually the entire amount of money paid for newsprint made in the United States in 1933, some $40,000,000, represented payments to labor "in one form or another," Mr. Rickard declared.

Industry Approves Recommendations

The recommendations submitted by the Code Authority, according to Mr. Rickard, represent the views of nearly all the members of the industry and "any difference of opinion would be in the direction of asking for a greater degree of relief than is proposed." The industry accepts for the present the existing situation, Mr. Rickard stated, and the present step toward stabilization "is merely putting a bottom to what seems to be the bottomless pit into which this entire industry was disappearing." Newsprint manufacturers, he asserted, were willing to be patient and asked for further relief only "when it is justified by the conditions affecting both the newsprint industry and the publishing industry."

Referring to a report by the Administrator to the President on October 26, 1933, in which it was declared that

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Paper Mill Employment Shows Gain in Wisconsin

Various Other Factors Also Indicate a Decided Improvement in Business Conditions and Optimism is Widely Expressed That Upturn Will Continue—Rhinelander Paper Co. at Annual Meeting Issues Statement of Excellent Business Since First of Year.

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., February 5, 1934.—Employment gains and expressions from executives of paper and converting plants at Neenah and Menasha, Wis. indicate a decided improvement in business conditions and a widely expressed optimism that the upturn will continue. January has been a much better month for production and volume of orders, a situation which augurs well for the spring period at least.

Kimberly-Clark Adds Workers

Kimberly-Clark Corporation has added 662 workers since June 30, 1933 in its mills at Neenah, Kimberly and Niagara, Wis., and Niagara Falls, N. Y. The John Strange Paper Company recently placed a third machine in operation and called back 50 idle men. The Neenah Paper Company has the unique record of not having laid off a man, although the mill has operated on a shorter week schedule in the past months.

Employment has been increased 10 per cent at the Gilbert Paper Company with 185 now on the payrolls. A three-day week schedule had been in effect for a long time and the six-hour day shift therefore was not put into practice as in many other mills. Although there has been no phenomenal increase in orders, George Gilbert, first vice-president, declares there is a general feeling that business is improving.

Whiting Paper Co. Increases Employees

The Whiting Paper Company has increased the number of employees ten per cent over a year ago. Business is improving there for the first time in two years, according to Frank B. Whiting, president.

George Banta, president of the Banta Publishing Company, declares that business conditions are generally better than a year ago. The payroll of the company is 25 per cent greater than at this time last year, with 70 persons added when NRA working schedules went into effect.

Employment has been boosted ten per cent at the Central Paper Company. "The outlook is clearer and we have a good, steady flow of business for some months," William Gerbrick, president, said.

The Edgewater Paper Company, Yankee Paper Company and Menasha Mill Supply Company also have experienced increases in converting sales and have added to employment. November and December were quiet at the Wisconsin Tissue Mills, R. E. Stough stated, but if orders continue to come at the same rate as in the last ten days, the plant will be on a normal operating basis within sixty days. A gradual improvement in business conditions is anticipated by Mr. Stough.

Marathon Paper Mills Increases Employment

The Marathon Paper Mills Company increased employment during the last year at the carton division at Menasha, with 627 on the payroll now as compared to 536 in January, 1933. There has been a 17 per cent increase at the Wausau branch and a 14 per cent increase at the Ashland plant. The slump season in the carton business has slowed down operations, but officials feel that better business lies ahead, and that production will be heavy during the peak season next summer.

J. B. Delbridge Retires

J. B. Delbridge, an executive in the offices of the Thilmany Pulp and Paper Company, Kaukauna, Wis., has retired from active work at the age of sixty, after completing thirty-eight years of service. Shortly after he came to Kaukauna, he started work with the former Badger Wall Paper Co. In 1885 he joined the Thilmany organization as bookkeeper. In recent years, he has ben associated with its safety work. When he first joined the Thilmany company, there were three machines making news print, poster and tissue papers. The office force was composed of Oscar Thilmany, the founder, George Reese and Mr. Delbridge. Most of the pulp wood was cut in the immediate vicinity by the Indians. Today the mill operates eight machines, a pulp mill, bag plant and various specialty machines. Mr. Delbridge will continue his residence at Kaukauna, where he owns an attractive home.

An Interesting Character Passes

The death of Ed. Shaw at Green Bay, Wis., last week took an interesting character away from the Consolidated Water Power and Paper Company's pulp wood operations at Ashland, Wis. Shaw was head raftsman in the anuual convoying of huge pulp wood rafts across Lake Superior from Canada by the Consolidated's Newaygo tug line. He was a raftsman for forty years. He started with the crew last summer, but was taken ill on his first trip and had to give up. The success of the rafting operations was attributed largely to his skill.

General News of the Industry

All tugs and barges of the Fox River Navigation Company are being overhauled and repaired in readiness for the spring season, when shipments of coal to the paper mills of the Fox River Valley will be resumed. Twenty-three men, mostly members of the ship crews, are doing the work under the supervision of Ben G. Brugh, manager. The boats are drydocked at Kaukauna, Wis.

New bids will be sought by Lt. Col. Harry M. Trippe, resident Army engineer, Milwaukee, Wis., on construction work designed to widen the channel of the Fox river at Green Bay, Wis., and deepen the harbor. The bids were $300,000 above the estimate of government engineers.

Efforts of organizers to unionize mills of the Fox River Valley are still being pushed. A closed meeting of Local No. 170, Papermakers Union, was held at Menasha, Wis., last week. The speaker was Raymond Richards, of Wisconsin Rapids, Wis., where the mills of the Consolidated Water Power and Paper Company are operated under union contracts. Further meetings are scheduled in Menasha and other valley cities.

Chicago Paper Market Looks for Active Spring

Most of Problems Regarding Adjustment of Prices Have Been Overcome and Paper Houses Are Thick in the Midst of Drive for Active Business—Specific Grades of Paper All Reflect the Betterment of the Industry as a Whole—Waste Paper Market Active.

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., February 5, 1934—Reports coming from Chicago offices of paper jobbers and manufacturers' representatives continue to reflect the almost unanimous approval on the part of the industry of the codes under which they are operating. Most of the perplex problems revolving around readjustment of prices have been overcome and the industry itself is thick in the midst of a spring drive for actual business.

Specific grades all show the betterment of the industry as a unit, at least as far as this section is concerned. Fine papers continue to show a growth of demand and business following the inventory period has been uniformly satisfactory. Books and covers, bonds and ledgers, sulphites and other grades are reported to be sharing in the more healthy situation. The kraft and kraft specialty market also presents a much more pleasing picture than it did a few months ago. The price situation is adjusted and demand is reported as uniformly good. This has ben particularly true in the last two weeks of January.

Paperboard and allied grades are benefiting from the general improvement in business and particularly from the demands originating in the beer and liquor industry. The newsprint market is better. It is significant to note that there are many Chicago voices joining in the chorus of protest against publishers who insist on buying American goods to their readers and who, in turn, go abroad for their newsprint. Ground woods are improving slowly and surely. The waste market is uniformly more active.

Paper Board Code Authority

The Paperboard Code Authority established in line with the signing of the code of fair practices governing this country, this week released its first official communication. Industry members of the Authority are Sidney Frohman, chairman; W. J. Alford, Jr., vice-chairman; E. Victor Donaldson; E. T. Gardner; Alan G. Goldsmith; J. W. Kieckhefer; J. Gibson McIlvain; G. G. Otto; Walter P. Paepcke; H. L. Rauch and W. B. Turner. The NRA member is W. W. Pickard while H. S. Adler is serving as Secretary. The initial communication, dated January 24, certifies that "The Paperboard Code Authority, pursuant to the provisions of the Paperboard Code, approved on November 8, 1933, has been duly organized for the administration of such code." The "Authority" announced that it was ready and capable to immediately begin the handling of trade practice complaints from its offices at 608 S. Dearborn Street, Chicago. The communication also included a letter from George L. Berry, Division Administrator of the National Recovery Administration, recommending that the Paperboard Industry Code Authority be given temporary qualification to administer its code, including the Fair Trade Practice complaints on reference. The temporary qualification, according to Mr. Berry's statement, does not apply to labor complaints but does give authorization to handle fair trade practice complaints on reference.

The Chicago Paper Association has already recognized the ability of two of its newest members by placing them on important Commodity Committees. Henry Burhop of the Burhop Paper Company is the newest member of the Corrugated Committee, while M. A. McNulty, president, has selected Mr. Lew Nowlin of Bradner Smith & Company to serve on the Toilet and Tissue Committee. These "commodity committees" are very important in the program development of the association inasmuch as it is their duty to contact closely with manufacturers of these various commodities on all problems representing the respective commodities in the Chicago market. The next meeting of the association will be held at the Blackstone Hotel, February 13.

Ray Wantz Suffers Heart Attack

Ray Wantz, president of the Rockford Fibre Container Company of Rockford, Ill., and executive head of the Illinois Manufacturers Association, suffered a severe heart attack on January 30. Latest reports indicated that he was still in a serious condition. Reports further stressed the fact that Mr. Wantz' illness had undoubtedly been aggravated by his many activities dealing not only with the affairs of his own company but with those of the Manufacturers Association and of the NRA code itself. The Rockford manufacturer has taken an important part in the development of the code situation covering his particular industry.

Chicago Greatly Interested in Paper Week

Increasing interest is being shown in the annual meeting of the American Pulp and Paper Association and its many subsidiaries scheduled for the Waldorf-Astoria in New York City on February 19, 20, 21 and 22. Chicago executives, many of whom are going to take the New York Central "specials," are expecting the largest attendance on record at these annual events. J. H. Coy, working with an eye toward lining up a huge Chicago crowd, reports unusual interest in all events. The Salesmen's Association of the Paper Industry, having the only social function of the program in the form of its annual luncheon, naturally expects a record attendance.

General News of the Trade

L. J. Doyle, newly appointed general sales manager of the Union Bag and Paper Corporation, was given a splendid send-off before he left for New York to take up his new duties. The sales force of the western division, of which Mr. Doyle was the manager, sponsored a farewell dinner last week as a testimonial to the ability and personality of the executive. Mr. Doyle's place in the western division will be filled by B. A. Weathers, Jr.

Paul Joslin, genial assistant sales manager of the Flambeau Paper Company, was to be found in the Conway Building offices of that company, pinch hitting for Jim Coy who spent a week on the road.

Boston Reports More Active Demand for Paper

Gradual Improvement in the Request for Practically All Varieties Characterized Business of the Past Week — Jobbers Especially Are Said to Be Doing More Business Than Recently, Principally with the Textile Mills—Paper Stock Market Active.

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., February 5, 1934.—The close of the month showed more activity in both fine and wrapping paper than during December, although "January was not a blue banner month for anybody." A gradual improvement characterized the demand for paper in the aggregate during the last week. In a number of cases, business in fine paper was reported as "fair," in some "pretty good," and in others "good." Jobbers are said to be doing considerably more business than mills at the present time. Selling to textile mills is now an important factor with jobbers, since that industry has improved so much. Some distributors, at least, are working to see where they fit on the distributors' code. In some instances, price lists have been prepared. A considerable demand for paper from printers will be forthcoming for printing price-lists for other industries, such as the candy industry. Conditions in wrapping paper were fair, in some cases better than during the previous week. The fact that the code for the envelope and paper bag industry goes into effect today will be a great help to the trade. Dealers in fancy papers experienced a good month. Box board continued in fair demand.

Paper Stock Market Strong

The paper stock market continued strong and active, with dealers finding no difficulty in disposing of merchandise. Commenting on conditions, a dealer says: "With the monetary situation more clearly defined, the paper mills and dealers can look forward more clearly and business is expected materially from now on. Foreign Exchange is less variable and with many uncertainties removed, business should be on the upward trend. Conditions will be aided by the usual spring rise. A seasonable improvement is to be expected, but with conditions vastly improved there is no longer any reason for buyers to be hesitant. Conditions today contrasted with those of a year ago show an improvement of 100 per cent at this time. We were approaching the bank holiday. Business was paralyzed. Today everyone is beginning to feel the effects of the new deal. The improvement over the last year has been so gradual that you could not notice it from week to week. Deficits of paper mills and paper stock mills have been changed into profits."

Rag and Waste Paper Advances

In old papers, No. 1 mixed papers have moved up to 27½ @ 30. Bagging demand keeps up. Foreign gunny No. 1 has advanced to 1.45 @ 1.50; wool tares, heavy, to 1.25 @ 1.30; new burlap cuttings to 1.35 @ 1.60, and paper mill bagging to .90 @ 1.10. New domestic rags are unchanged in price, but in old domestic rags, white No. 2, repacked, have advanced to 2.00 @ 2.25 and white No. 2, miscellaneous, to 2.00 @ 2.75.

Twine is moving better. Jobbers have been selling their supplies and are coming into the market for more. One mill received an order for a ton of fine polished twine during the week, a sizable amount. There was a little movement in ordinary twine.

Otter River Mills Incorporate

The Otter River Mills, Inc., Templeton, Mass., has been incorporated with a capital stock of $40,000 to manufacture and deal in paper boards, including binders' board, shoe, spool, and truck boards, and material manufactured from waste paper fibre. There are 4,000 shares, $10 each. The president is Owen A. Hoban; treasurer, Agnes E. Hayes, 127 Peabody street, Gardner, and the third incorporator is Gertrude I. Hirvonen.

New Carter Rice & Co. Price-List

Copies of the price-list of Carter Rice & Co., Corp., will be ready this week for salesmen and customers. There is a skeleton or supplementary list which may be used in conjunction with the company's regular catalogue. Each item in this list is keyed so that the customer may easily turn to the proper page in the regular catalogue for complete details regarding sizes, weights and for other information.

Storrs & Bement Hold Sales Meeting

A sales meeting of the Storrs & Bement Company was held at the office of the company Saturday morning in regard to products of the Brown Company, of Portland, Me., with John H. Brewer, general manager of the former concern, presiding. Jamie Stepp, of the Brown Company, gave a talk on the lines of his company and their uses.

The supplementary price-list of the Storrs & Bement Company is just off the press. Prices of most of their lines are given, to be used in conjunction with the catalogue.

General News of the Trade

Knight, Allen & Clark, Inc., one of the houses which has added this paper to its list, held a sales meeting or round-table discussion Saturday morning in regard to Trojan Bond.

Many New England members of the National Paper Trade Association are planning to attend the convention of the organization to be held in New York Feb. 19-21. They have received the detailed program of the convention.

Book No. 82, containing Impression Papers for box coverings, made by the Marvellum Company, Holyoke, Mass., of which Henry L. Goodman is a representative, has been issued. Impression Papers, which are stocked in 26-inch rolls, with base stock 25 pounds 20x26—500, are made in thirten colors, green, light green, buff, light gray, turquoise, pink, scarlet, light yellow, brown, lavender, violet, light blue and dark blue.

Lawson Ramage, general superintendent of the J. P. Lewis Company, Beaver Falls, N. Y., called on his many friends among the New England paper dealers last week. Charles J. Brown, sales representative for this territory, will probably be confined to his home for several more weeks.

Arthur C. Hall, treasurer of John Carter & Co., Inc., is on a short trip to Florida, but will return in time for the annual paper trade meetings in New York.

Canada Experiments With High Grinder Speed

Forest Products Laboratory of Canada Utilizes Artificial Stones in the Manufacture of Ground Wood at Higher Speed Than Any Pulp Maker Has Ever Dreamed of With, It is Reported, Favorable Results—New Plan of Reorganization for Price Bros.

MONTREAL, Que., February 5, 1934.—Developments that may revolutionize the manufacture of ground wood pulp are forecast as a result of experiments now being conducted in the Forest Products Laboratory in Montreal. These developments have followed upon the substitution of grinders made of artificial abrasives for the natural pulpstones operated at greater speed than formerly used.

Practically ever since pulp grinding was devised, pulp mills of Canada have been grinding mechanical pulp at the highest speed at which a natural grindstone can safely be turned round, somewhere around 3,000 to 3,500 feet per minute. That is the maximum safe speed for such a stone; at any higher speed there is danger of the stone bursting. Of recent years, natural pulpstones have to a large extent been replaced by grinders made of artificial abrasives, which are not subject to the same danger of bursting as the natural stone, but they have been turning at the same speed as if they were natural stones, mainly because the machinery by which they were turned is the same as was originally devised to turn the natural stone.

Seek Greater Efficiency

With the advent of low prices, keen competition and many other difficulties in the pulp business, the question has arisen as to whether the production of mechanical pulp could not be made more efficient, its cost of production reduced and mill operating conditions improved. This is of importance, it was pointed out, in that a large percentage of newsprint, for instance, is mechanical pulp.

Experimenting with the artificial wheel speeded up to a point faster than any pulp maker has ever dreamed of before it was found in the laboratory that not only did the higher speed give proportionately increased production of ground wood, but that in order to get the same quality of paper as before, it was necessary to increase the pressure with which the log is forced against the stone; so that the output was increased in both directions, by higher speed and also by higher pressure.

Hope for Favorable Results

The hope is expressed that when this improvement is carried to its full completion, Canada may be able to meet the threats to her supremacy in the production of mechanical pulp coming from Finland, Sweden and recently from the Southern States, and continue to hold first place both as regards quality and economy of production.

Price Bros. & Co.

Price Brothers & Co., Ltd., on Friday last, officially presented to the Hon. Gordon W. Scott, trustee in bankruptcy for that organization, their new plan of reorganization. The new proposal provides for $5,000,000 of new money to be underwritten by interests comprising the Duke-Price Power Company, Lord Rothermere and Lord Beaverbrook. It contains greatly improved terms for security holders and creditors.

Other developments in the Price Brothers' situation over the weekend included the forwarding of a letter to preferred shareholders from the protective committee of the group, outlining the situation as it affects that class of security-holders; a move undertaken to form a protective committee for common shareholders, and a strong market for the Price Brothers' securities.

Says Bowater Offer Is Preferable

The letter to preferred share-holders from the protective committee representing that class of security states that "while your committee still believes that an internal reorganization would, from the standpoint of preferred shareholders, be most desirable, this does not at the moment seem likely, and, therefore, your committee states that as between the two offers as now before them the Bowater offer is preferable to the bankrupt company's offer and recommends accordingly." Such a conclusion was prefaced by the remark: "We are advised that the Bowater's agreement with the bondholders' committee will be carried out either by sale from the trustee in bankruptcy, if he accepts the offer, or if the trustee in bankruptcy does not accept the offer, by the trustee for bondholders through foreclosure and sale. In neither case would a meeting of the preferred shareholders be required as their rights would be foreclosed."

The letter added: "As the situation is one which is rapidly changing and new considerations may at any time arise, your committee feels that they should have proxies from their shareholders, and are accordingly enclosing a general form of proxy giving them discretion to act in all circumstances."

Paper Box Men to Meet at Cambridge

A meeting of the Metropolitan Paper Box Manufacturers' Association, the annual affair to which all box makers and supply men of New England are invited, is to be held at the Hotel Commander, Cambridge, Feb. 28. Guests of honor are Francis K. Lowthorpe, assistant deputy administrator of the paper and pulp division and administrative member of the box code authority; William P. Datz, Jr., president of the National Setup Paper Box Association and chairman of the code authority; Howard P. Beckett, executive secretary, and Sol A. Herzog, counsel. A short business meeting for the election of permanent officers is planned, to be followed by a dinner and entertainment. It is expected that many of the firms supplying box makers' materials will be present.

To Attend Packaging Exposition

Reports indicate that Chicago will be well represented at the Fourth Packaging, Packing and Shipping Exposition to be held in New York City on March 12 to 16. This popular annual event, which features conferences and clinics of considerable importance, will draw the displays of the Container Corporation of America, the General Box Company and the Pioneer Paper Stock Company and others. Many awards have been announced for the various exhibits. The displays will be at the Hotel Astor and will form an important part of the four-day session of the Association.

Philadelphia Looks for Expansion in Demand

Upturn in Paper Sales Which Set in During January Will It Is Thought Be Accelerated During February and March—Waste Paper Prices Are Stationary and Firm With Another Advancing Movement Expected — Philadelphia Paper Association Leases New Quarters.

[FROM OUR REGULAR CORRESPONDENT]

PHILADEIPHIA, Pa., February 5, 1934—The upturn which prevailed in the latter part of January, it is thought, will be accelerated during February and March with the early advent of Easter. Based on the strength of consumer demand during the last ten days of January, paper merchants have set their buying budgets from 15 to 20 per cent ahead of last year. All factors point to an augmented rate of business expansion over the next two months, and comparisons will be favored by the stagnation of activity which accompanied the banking crisis a year earlier.

Waste paper prices are holding rather stationary, developing little change of importance, yet characterized by a firm tone while the market apparently is waiting an expansion of demand from consuming quarters before staging another advancing movement. Packers, putting considerable stress on the limited tonnage of most grades of stock available, are insisting on quoted market prices and are not pressing to sell. Mills are absorbing supplies fairly freely though there seems lacking at this writing sufficient demand to cause additional appreciation in market values.

Association Activities

Association activities, particularly as they related to the Code, occupied the major attention of paper house executives during the week. In calling at the headquarters of the Paper Trade Association, your correspondent was apprised by President T. H. B. Smythe, that transfer of its lease from room 633 to rooms 760 and 762 Drexel Building had been effected, and on arrival at the newly leased offices, found them to be very commodious and the last word in appointment. Mr. Smythe further stated that N. W. Walker, formerly connected with the Department of State Banking, will take up his duties as executive secretary of the Trading Area Committee and Philadelphia Paper Trade Association, the beginning of the week.

Coarse Paper Division Meet

The first meeting of the Coarse Paper Division, since the annual meeting of the Philadelphia Paper Trade Association in January, took place at the Benjamin Franklin Hotel during the week. This was a combined meeting of the coarse paper houses and a newly created subdivision of the bag group. A representative membership was in attendance. New Commodity Committees were appointed, and announcement of the personnel will be made later. The purpose of these committees is to keep members posted as to what Codes are becoming effective, it being difficult for any one member to ascertain this information by his own individual efforts. These Commodity Committees are in position to garner this information and have been most helpful to the various members. Nathan O. Isen, president of the Enterprise Paper and Bag Company, and the newly appointed 3d vice-president of the Philadelphia Paper Trade Association, is in charge of the subdivision to be known as the Bag Group. Heretofore this group was functioning under the Paper and Bag Division of the Philadelphia Paper Trade Association, but it was thought the best interests would be served by combining with the Coarse Division. T. H. B. Smythe gave a very interesting and illuminating talk on the mechanics of the code operation insofar as the National Code Committee, the Regional and Trading Area Committee would act, how it operates under the price reporting plan, and statistical information regarding employees. W. B. Kilhour Jr., president of Quaker City Paper Company, and 2nd vice-president of the Paper Trade Association, explained to those present the necessity for being prepared very shortly to submit their prices when the price reporting plan would be in operation and would demand this information.

Wm. A. Hentz Goes With Thomas W. Price Co.

Formal announcement by the Thomas W. Price Company was made this week to the effect that William A. Hentz, for eighteen years vice-president of D. L. Ward Company, is now associated with them in charge of sales. Mr. Hentz is well known among the paper trade and allied lines, having served two years as president of the Paper Trade Association of Philadelphia, and under his guidance constructive measures for the purpose of cooperative action and elimination of unfair competitive practices were effected.

F. S. Balch Returns From Middle West

Fred S. Balch, vice-president and treasurer of the Schuylkill Paper Company, and secretary of the Philadelphia Paper Trade Association, has just returned from a week's trip in the Middle West, where he made the rounds of the book paper mills.

Heveatex Corp. Opens New York Office

In order more promptly to handle inquiries from Eastern fields for its products, the Heveatex Corporation of Melrose, Mass., has opened an office at 90 Broad street, New York City, for sale of rubber latex and concentrated latex and for technical servicing of these products.

The New York office will be in charge of W. J. R. Hauser, who has just joined the corporation as vice president in charge of sales. Mr. Hauser is well known in connection with his work of some years in the United States and abroad in the development of the uses of latex and concentrated latex in the paper field.

Mr. Hauser's extended experience will be available to users and experimenters for applications of latex in the paper field.

Ask Permission to Reduce Wages

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., February 5, 1934—In response to a suggestion of the National Recovery Administration compliance board, the Schultz-Illinois-Star Paper Box Company of Warsaw, Ind., has asked the NRA administrator for permission to reduce wages at the Warsaw plant by 20 per cent. under the NRA paper box Code. All but four employees of the plant joined in the request, according to King Howard, manager of the factory. The reduction is necessary, he contends, because 90 per cent of the output of the plant is shipped to Chicago, which necessitates the sale of boxes from the Warsaw plant at a rate that will compete with prices asked for boxes produced in the Chicago area.

Pay Wages in Silver Dollars

[FROM OUR REGULAR CORRESPONDENT]

FREEPORT, Ill., February 5, 1934—Thirty thousand pieces of silver—a rain of silver dollars weighing more than a ton—poured upon Freeport today when the employees of the Burgess industries, including the Burgess Cellulose Company, were paid off at the plant on East Stephenson street early Saturday morning, January 20.

Harking back to the days, within memory of a few Freeport inhabitants, when payrolls were entirely silver and gold, news of the silver avalanche spread through the city's shopping district. Merchants, seizing the bright opportunity, soon featured "Cartwheel Value" posters announcing special sales. In a little while silver dollars were overflowing cash registers, built for paper dollars, and special receptacles, cigar boxes and the like, anything to hold the currency loosed upon the stores, were brought into use as the employees began spending their money.

As each employe opened his canvas bag, he found a notice from the company, which stated:

"Burgess payrolls are being met this time only in silver dollars. The reasons for this procedure are two:

(1) To promote the popularizing of silver currency and to cooperate with the administration in its silver policies.

(2) To demonstrate the importance of our industries to the city of Freeport.

"Freeport merchants are cooperating in this program; we urge you to spend these silver dollars in the payment of your bills, and in the purchase of the unusual values being offered today."

Dr. C. F. Burgess, whose hobby has long been the uses and applications of silver, thought that this was the best method "to show the community that the silver dollar is a sound, spendable currency." He hopes that the attention thus created "will lead many of the intelligent citizens to find out for themselves the true facts of the silver issue." He thinks, too, that the study of the flow of such an "ear-marked" payroll through these various channels of trade will show the purchasing power of an industrial payroll in a typical community.

Paper Salesmen's Convention Program

The Salesmen's Association of the Paper Industry has arranged an ambitious program for Paper Week. The executive committee of the association is to meet at ehe Waldorf-Astoria at 3 P. M., on Monday, February 19. The annual meeting is scheduled for Tuesday, February 20, in the Waldorf-Astoria, at 11 A. M.

The luncheon, which will be held on the Roof Garden of the Waldorf-Astoria, at 12.30 P. M., Tuesday, February 20, promises to be one of the most important events of the week. S. L. Willson, president of the American Paper and Pulp Association, will be present to welcome the Salesmen's Association as an affiliate member of the parent organization.

George H. Mead, president of the Mead Corporation, and a leading figure in the paper industry; and James E. Gheen, a business man with a sense of humor, and a notable after-dinner speaker, are to present the leading addresses. Frank Sherman, of Victor and Radio fame, will head the entertainers.

Tickets for the luncheon at $3.50 each may be obtained from the secretary, James R. Carter, at the offices of the American Paper and Pulp Association, 122 East 42nd street, New York.

60 Per Cent Promotional Increase in 1934 Announced for Caslon Papers

"Now's the time to increase promotional activity and take advantage of the business upturn, which is no longer a myth," is the opinion of Norman V. Ventriss, sales promotional manager of The Munising Paper Company. And he is backing up his idea with a big promotional campaign that represents a 60 per cent increase over last year's activities. It will include both space and direct-mail advertising.

So Caslon Bond, Caslon Ledger, and Caslon Bond for the Mimeograph, the three most popular business papers of The Munising Mill, are due for a considerable sales boost.

This is especially significant in view of the fact that at least half of the paper merchants that handle these grades reported an increase in their 1933 sales over those of 1932. The Caslon pirates, those rollicking advertising figures that introduced Caslon papers in 1928, will be frequent visitors to the desks of printers and paper users all through 1934.

Mr. Ventriss reports that the Ellis T. Gash Company, Chicago Advertising Agency that worked with the Munising Mill in launching Caslon Bond, will again direct the advertising activities this year.

TAPPI to Discuss New Deinking Processes

A feature of the annual meeting of the Technical Association of the Pulp and Paper Industry to be held at the Waldorf-Astoria Hotel in New York on Wednesday, February 21 at 2:00 P. M. will be a review of the most recent developments in the recovery of old papers by new deinking processes.

Sidney D. Wells, technical director of the Combined Locks Paper Company, Combined Locks, Wisconsin, will describe the process recently developed for removing ink from telephone books in the Middle West. This process is revolutionary since it is not customary to deink papers containing a large proportion of mechanical wood pulp. Instead of using the orthodox alkaline cooking methods wherein the paper is treated with caustic soda or soda ash solutions, sulphur dioxide is used as a reducing and bleaching agent. To be effective a special ink is employed in printing the papers that are run through the recovery cycle.

Stanley Maclaren will describe the new Snyder-Maclaren deinking process which is used in Eastern paperboard mills. The greatly increased use of paper cartons has led to a demand for cleaner and whiter boards. The deinked stock resulting from this deinking process provides a board which is new and attractive to the trade.

It is likely that reports concerning other new deinking processes will also be given. Anyone interested in attending the meetings of the Technical Association during the period of February 19 to 22 will be welcome.

Gummed Products Co. Opens Cleveland Office

The Gummed Products Company, Troy, Ohio, manufacturers of Trojan gummed paper, Sterling gummed tape and Trojan box tape, announces the opening of a Cleveland branch sales office, 1397 Union Trust Building.

The purpose of the new sales office is to better serve the Gummed Products Company's many customers.

Mr. F. F. Williams, who has been calling on the trade in this particular section of the country for sometime and is well-known among the customers of the company, will be in charge.

Obituary

Joseph Schrier

Joseph Schrier, president of Schrier Brothers, Inc., one of the largest wholesale distributors of paper in the New York Metropolitan area, died January 24, at his residence, 1447 President street, Brooklyn, New York. For several years a heart ailment had permitted him to work only occasionally and he was stricken with an attack on the morning of the 24th from which he did not recover.

Born in Russia sixty years ago, Mr. Schrier came to New York as a very young man. He established the business of Schrier Brothers, Inc., which has its main offices and warehouse at 99 North Third street, Brooklyn. He was a charter member and a director of the Brooklyn Jewish Center and a supervisor of several philanthropic organizations.

Surviving are his parents, Max and Rose Schrier; his widow, Mrs. Katie Schrier; three sons, Jack, Harold, who are connected with the firm of Schrier Bros., Inc., and Dr. Maurice Schrier; three daughters, Mrs. Ceil Borus; Mrs. Evelyn Croen and Mrs. Dorothy Meckler; a sister, Mrs. Rebecca Baron; and five brothers, Hyman, Isaac, who are respectively secretary and treasurer of Schrier Bros., Inc., Max, Harry and Nat Schrier.

A very large assemblage attended the funeral services at Mr. Schrier's late residence and as a tribute, the funeral cortege paused for a few minutes at the Brooklyn Jewish Center building.

Robert E. Lee

Robert E. Lee, aged 67, secretary of the Falls Paper Box Company, at Cuyahoga Falls, Ohio, and formerly executive vice-president of the Akron, Ohio Chamber of Commerce, died suddenly on January 26 at the Akron City Hospital.

Born in Baltimore, Md., May 25, 1867, Mr. Lee came to Akron from Cincinnati in 1913, and served the Firestone Tire and Rubber Company as welfare director for thirteen years. He resigned in 1926 to accept a newly created post as full-time executive vice-president of the Chamber of Commerce in which capacity he served for two years.

At the end of that time he organized the Falls Paper Box Company at Cuyahoga Falls, with which he was subsequently associated as secretary.

First potentate and charter member of Tadmor Temple Shrine, Mr. Lee was largely responsible for the grant of a charter to that group. He was active in Masonic bodies for more than thirty years. He was Past High Priest of the grand chapter, Royal Arch Masons of Ohio, and in 1912 served Kilwinning Chapter No. 97, R. A. M., as high priest.

Robert Bruce Wallace

ROCHESTER, N. Y., February 1—Robert Bruce Wallace, 58, president of the Great Lakes Paper Corporation, died unexpectedly February 1 at his home, 82 Hobart street.

He was born May 15, 1875, in Auburn and had resided in Rochester for 25 years. Prior to affiliating with the Great Lakes Corporation he was with Hubbs & Hastings Paper Corporation.

Mr. Wallace is survived by his widow, Mrs. Ida Armstrong Wallace six daughters, Mrs. Marcia Tuttle, Mrs. Robert Weir, Leah Joy, Mertice and Ellen Wallace; three sons, Robert B. Jr., Charles Blake and Alvin Wallace; two brothers, Charles S. Wallace of Philadelphia and Edwin Wallace of Seattle; and two sisters, Mrs. Angie Cadzow of Syracuse and Mrs. Nell Moon of Auburn.

He was a member of Flower City Lodge, F. & A. M., and Damascus Temple, Shriners.

Bright Prospects for Strathmore

SPRINGFIELD, Mass., February 5, 1934—Brighter prospects are ahead for the Strathmore Paper Company of West Springfield and Woronoco, officials reported when the annual meeting, scheduled for that day, was postponed until February 12. Insufficient time to prepare the audit was given as the reason.

Production has been increased by Strathmore within the last several weeks and additional employees added. Some of its mills now are operating 40 hours a week, a full week. Others are on slightly shorter weeks.

The company has been working under the paper industry code since November 27 and already is experiencing benefits. Officials said it is restraining the price cutter and the "chiseler" and otherwise has provided a stabilized basis on which the industry may make a new start.

It is because of additional work caused by introduction of the code that the Strathmore audit was not completed in time for annual reports to be given yesterday. Other companies hereabouts have been affected the same way. Stockholders were notified when the notices of the established meeting day were sent out that it would be necessary to adjourn for two weeks.

Rhinelander Paper Co. Elects Officers

At the annual meeting of Rhinelander Paper Company, Rhinelander, Wis., January 29, N. F. Becker, general manager, issued a statement showing that the company has enjoyed an excellent volume of business from the first of the year on, and there is every reason to believe this volume will continue and that the plant will have sufficient orders to continue operating at capacity.

E. O. Brown was re-elected president, and the other officers are: E. A. Forbes, vice-president; Paul Browne, secretary; Spencer Brown, assistant secretary; N. F. Becker, treasurer; A. C. Brown, assistant treasurer. Other directors are Fred Anderle and Robert L. Caldwell. Mr. Caldwell is a new member of the board. The executive committee is to consist of E. O. Brown, Mr. Forbes and Mr. Becker.

Eugene L. Griffin Serves 50 Years

[FROM OUR REGULAR CORRESPONDENT]

SPRINGFIELD, MASS., January 30, 1934—Eugene L. Griffin, 64, was tendered a banquet at the Nayasset Club Thursday night by officials and employees of the Powers Paper Company of this city in honor of his completing 50 years of service with that concern. He began by selling papers for the Powers News Company and then was given a place in the Powers factory as stock boy in the envelope department. In 1888 he was appointed assistant to Frank B. Powers, son of L. J. Powers, and in 1912 was made plant superintendent. He lived in Holyoke while the Powers Company was located there; when it removed to its new plant in Springfield he came to Springfield to live.

Technical Association of the Pulp and Paper Industry Annual Meeting Program

February 19-22, 1934

Program of Monday, February 19

A. M. and P. M. Joint meeting with the American Paper and Pulp Association and its Associate Members.

Symposium—Paper Classification and Standards.

Morning Session 10:00 A. M.—Astor Gallery.

Honorary Chairman—S. L. Willson, President, American Paper and Pulp Association.

Presiding Chairman—Allen Abrams, President, Technical Association of the Pulp and Paper Industry.

Introductory Remarks—C. W. Boyce, Executive Secretary, American Paper and Pulp Association.

Remarks—L. J. Briggs, Director, U. S. Bureau of Standards, Washington, D. C.

Remarks—George Carter, Public Printer, Washington, D. C.

"Economic Significance of Paper Specifications," by J. E. Plumstead, Manager, Jessup & Moore Paper Company, Wilmington, Delaware.

"Use Requirements of Paper," by C. E. Curran, Forest Products Laboratory, Madison, Wis.

"Trade Names and Their Significance," by F. C. Clark, Vice President, Skinner & Sherman, Inc., Boston, Mass.

Afternoon Session 2:00 P. M.—Astor Gallery.

"TAPPI Facilities for Developing Standards," by C. C. Heritage, Vice President, Technical Association of the Pulp and Paper Industry. Comments on the Desirability of Paper Standards and Recommendations for Future Work.

Merchants Viewpoint — Charles Addoms, Treasurer, National Paper Trade Association.

Converters and Consumers Viewpoint—N. H. Stuart, Purchasing Agent, Remington-Rand, Inc., Buffalo, N. Y.

Paper Manufacturers Viewpoint—Ernst Mahler, Vice President, Kimberly-Clark Corporation, Neenah, Wis.

Paper Standards and the Importer—W. B. Bullock, Manager, Import Committee Paper Industry, New York.

Current Paper Standardization Projects:

Work of the Sulphite Bond Grading Committee—M. A. Krimmel, Hammermi'l Paper Company, Erie, Pa.

Work of Book Paper Association—H. P. Carruth, Vice President, Mead Corporation, Chillicothe, Ohio.

Preparing Paper Standards—H. M. Wriston, President, Institute of Paper Chemistry, Appleton, Wis.

Open Discussion on Paper Standardization.

Program of Tuesday, February 20

9:30 A. M. Astor Gallery. General Session — Allen Abrams presiding.

1. Report of Secretary.
2. Address of President.
3. Report of Joint Textbook Committee.
4. Development Reports by Division Chairman. (Report by C. H. Herty or W. G. MacNaughton on Work Progress at Savannah Pulp and Paper Laboratory.)

2:00 P. M. Astor Gallery. Engineering Division—M. H. Teaze, presiding.

1. Modern Lighting Practice in Pulp and Paper Mills, by W. S. Hadaway, Westinghouse Lamp Company.
2. Switchgear Developments of Interest to the Pulp and Paper Industry, by G. M. Reed, General Electric Company.
3. Mechanical Power Transmission from Motor Drive to Industry, by F. W. Parkhurst, Rockwood Manufacturing Company.
4. Aluminum Foil for Heat Insulation, by J. F. O. Stratton, J. O. Ross Engineering Corporation.
   Discussion by E. B. Swenson, Aluminum Company of America.
5. Standard and Comparison Power Plant Reports, by A. G. Darling, Chairman, TAPPI Heat and Power Committee.

2:00 P. M. East Foyer. Management Division—W. M. Shoemaker, presiding.

1. Possibilities of Standardizing Materia's Purchasing Specifications, by A. E. H. Fair, Alliance Paper Mills, Ltd.
2. Coordination of Research, Technical Control and Mill Operation, by K. A. Taylor, Oxford Paper Company.
3. Symposium—Organization and Operation of Training Progress for the Industry, led by H. G. Noyes, personnel manager, Oxford Paper Company.

2:00 P. M. West Foyer. Converting and Consuming Division — A. W. Nickerson and J. J. O'Connor, presiding.

1. Container Standards, by Pierre Drewsen, Hinde & Dauch Paper Company.
2. Viscosity Testing of Coating Color, by Parke Dunn and C. G. Landes, Mead Corporation.
3. Determination of Particle Size of Minerals Used in Manufacture of Coated Paper, by H. F. Vieweg, Rutgers University.
   Discussion by Gerald Haywood, West Virginia Pulp & Paper Company.
4. Coating Questionnaire Results Discussion.
5. Round Table Discussion on Coating Problems, led by J. J. O'Connor.

Program of Wednesday, February 21

9:30 A.M. East Foyer. Operating and Engineering Divisions—F. C. Clark and M. H. Teaze, presiding.

1. Rate of Drying News Print, by F. W. Adams, Massachusetts Institute of Technology.
2. Auxiliary Drive for Cylinder Machine, by A. Suter, Bogalusa Paper Company and D. R. Shoults, General E'ectric Company.
3. Use of White Water on Cylinder Machines, by F. C. Stamm, Upson Company.
4. Heat Utilization in Sulphite Pulping, by O. L. Berger, G. D. Jenssen Company.
5. Heat Utilization in Alkaline Pulping, by W. T. Webster, J. O. Ross Engineering Corporation.

9:30 A. M. Astor Gallery. Testing Division—R. C. Griffin, H. W. Morgan and B. W. Scribner, presiding.

1. A Modification of the Bright Stain and Procedure for Malachite Green in Determination of Bleached and Unbleached Fibers in Paper, by M. S. Kantrowitz, Government Printing Office.
2. A Sizing Test and Its Application, by R. M. Cobb and D. V. Lowe, Lowe Paper Company.
3. Water Resistance of Paper Board, by P. W. Codwise, Beaver Wood Fibre Company, Ltd.
4. A Plano-Radial Porosity Tester, by F. M. Williams, Williams Apparatus Company.
5. Processing Variables in Evaluating Pulp by the Pebble Mill, by C. E. Curran, Forest Products Laboratory.
6. A Comparison of Several Methods for Processing Pulp Test Samples, by H. W. Morgan, New York State College of Forestry.
7. Bleach Requirements of Pulp, by C. O. Seborg, Forest Products Laboratory.
8. Bleach Consumption of Pulp, by R. H. Wiles, International Paper Company.

2:00 P. M. Astor Gallery. Operating and Research and Development Division—F. C. Clark and C. E. Curran presiding.

1. Voith Pneumatic Conveying System, by Chris Crusius, J. M. Voith Company.
2. Deinking Telephone Directories, by S. D. Wells, Combined Locks Paper Company.
3. Maclaren-Snyder Deinking Process, by Stanley Maclaren.
4. Changes in Fiber Structure During Cooking and Bleaching, by C. H. Carpenter and H. F. Lewis, Institute of Paper Chemistry.
5. Effect of Chip Length in Sulphite Pulping, by J. N. McGovern and G. H. Chidester, Forest Products Laboratory.

2:00 P. M. East Foyer. Operating Division—D. Manson Sutherland, Jr., presiding.

1. A Study of Wood Pulp Fractination, by F. W. Brainerd, Institute of Paper Chemistry.
2. Beater and Jordan Control, by G. Lamont Bidwell, Jr., Riegel Paper Corporation.
3. Notes on Continuous Refining, by D. Manson Sutherland, Jr. (Chairman, TAPPI Stuff Preparation Committee.)
4. Round Table Discussion on Stuff Preparation headed by D. Manson Sutherland, Jr.

Program of Thursday, February 22

9:30 A. M. Astor Gallery. Engineering and Management Division—M. H. Teaze and W. M. Shoemaker, presiding.

1. Creating a Favorable Patent Situation, by C. W. Rivise (Chairman, TAPPI Patents Committee).
2. Economical Aspect of Stoker Applications, by R. A. Foresman, Westinghouse Electric and Manufacturing Company.
3. Steam and Power in the Pulp and Paper Industry, by W. P. Gavit, United Engineers and Constructors, Inc.

Note: A number of paper company representatives have been invited to discuss this paper. The same invitation has been accepted by the following representatives of allied industries:

R. E. Hall, Director, Hall Laboratories, Inc.

F. S. Clark, Consulting Engineer, Stone & Webster Engineering Corporation, Inc., and chairman, Edison Electric Institute Committee on Relations and Arrangements between Utilities and the Paper Industry.

Louis Elliott, Mechanical Engineer, Electric Bond and Share Company.

H. B. Lawrence, Henry L. Doherty Company.

9:30 A. M. East Foyer. Operating Division and Raw Materials Division—F. C. Clark and J. L. Parsons presiding.

1. Beater Addition of Titanium Pigments, by W. R. Willets, Titanium Pigment Company.
2. Zinc Sulphite Pigments in Today's Paper Industry, by V. A. Belcher, New Jersey Zinc Company.
3. Color Standards, by J. L. Parsons (Chairman of TAPPI Special Color Committee).
4. Pulp Specifications Survey, by H. U. Kiely.

1:00 P. M. Roof Garden. Annual Luncheon—Allen Abrams presiding.

TAPPI 1934 Fall Meeting at Portland, Oregon, Committee Program. Election of Officers.

Speaker—W. W. Pickard, Deputy Administrator, Paper Division, National Recovery Administration, Washington, D.C.

New Howard Portfolio of Letterheads

Extra pains have been taken this year to make the new Howard Portfolio of attractive letterhead suggestions, an effective guide in the planning and creating of attention compelling letterheads.

The Howard Paper Company, makers of Howard Bond, Mimeograph and Ledger, and sponsors of the Howard Portfolio, have noticed a decided trend toward the improvement of letterhead design during the past year. Businesses, both industrial and commercial, are giving more serious thought to their letterheads, realizing that they can be made to play an important part in sales promotional work as inquiry seekers and sales builders in remote, unsolicited sections, and as good will builders through regular sales channels, for the company and its selling staff as a whole.

In planning the new Howard Portfolio this year, this important trend has been given every consideration. Distinctive letterhead samples of every description have been included—actual letterheads that are being used by concerns in all parts of the country have been brought together to assist the printer, engraver and lithographer to cater to the needs of their customers—and at the same time to enable business executives to decide upon a particular type of letterhead that is most desired by them.

The Howard Paper Company, Urbana, Ohio, is sending a copy of this portfolio to anyone requesting it on their business stationery.

PICTURE NEWSPRINT INDUSTRY IN DESPERATE NEED

(Continued from page 11)

"the United States and Canadian branches of the industry are practically one from a competitive standpoint," Mr. Rickard stated that the matter of the present recommendations had been discussed with the Canadian manufacturers and the latter were willing to comply with the proposals if such were approved by the Administrator.

After referring to several letters exchanged by his group with the American Newspaper Publishers' Association, in which the publishers were invited to discuss the mutual interests of the two groups, Mr. Rickard declared that the A. N. P. A. had indicated it did not desire to discuss the matter and had stated that the proposed supplemental code of the newsprint industry "appears to us to be violative of sound, legal principles and business economics." The letter stated further that the A.N.P.A. would oppose the supplemental code at the public hearing "and take every proper step to prevent its approval."

American Mills Not Obsolete

Answering a possible suggestion that the American newsprint mills were obsolete and that the industry "should be allowed to die a natural death," Mr. Rickard declared that such an argument was based upon a misapprehension. Mills in the United States which have survived the era of extreme competition, he declared, are as efficient as the newer mills in Canada. The actual cost of manufacturing and delivering 451,000 tons of newsprint produced by mills which were "among the most efficient in Canada," for the first six months of 1933 was $43.53 per ton, as compared with the lower cost of $43.28 per ton for the American mills, Mr. Rickard stated. Had the Canadian mills run at 71 per cent of capacity, he testified, their costs would have been lower by a margin of "about $2.00 per ton."

After citing various factors tending to make Canadian production costs lower than those in this country, Mr. Rickard concluded by expressing belief that "it would not be consistent with sound policy to have this country entirely dependent on foreign sources for a commodity of such important character as newsprint."

R. S. Kellogg Presents Exhibit Data

Following Mr. Rickard's testimony, R. S. Kellogg, secretary of the Code Authority, presented an elaborate exhibit of data on which the previous witnesses' testimony was based. He also stated that the conversion costs of typical mills in the United States and Canada were virtually identical, and pointed out that 80 to 85 per cent of the total newsprint consumption in the United States was at ports which take the base price.

J. D. Zellerbach, also of the Code Authority, briefly explained the proposed recommendations and pointed out that they were "exceedingly moderate."

J. W. Magers, of the Zone Map Committee for the newsprint industry, stated that the proposed zone plan would bring about an equality among publishers such as was not possible under the old system of selling f.o.b. mill with freight allowed to destination.

W. S. Kennedy, publishers of a small daily at Albion, Mich., spoke on behalf of the Michigan League of Home Dailies and asked that the supplemental code by approved by the NRA "as presented." A stable newsprint market, based on fair production costs, is most important for small newspapers, he testified; and he went on to say that it was "elemental" that the American mills be protected.

Shelton Wardell, of the St. Croix Paper Company, testified that 26 newsprint mills in the United States, with 5,987 tons of daily capacity and a total investment of $300,000,000 had shown either no profit, or had reported net operating losses.

A. L. Hobson, president of the St. Croix Paper Company, stated that no relief was possible for American mills without considering competition from foreign manufacturers. Two-thirds of the newsprint consumed in this country is imported, he stated, and a'l but five per cent of the imports come from Canada. Canadian manufacturers, he stated, after weeks of patient negotiations had subscribed to a mutually satisfactory agreement contingent upon approval of the Code Authority's recommendations. This approval, the witness declared, was primarily "an act of friendship on the part of our neighbors to the North."

S. L. Willson Urges Approval

S. L. Willson, president of the American Paper and Pulp Association and chairman of that industry's Code Authority, urged approval of the recommendations as submitted. He stated that nearly 45 per cent of newsprint capacity in this industry either had gone out of production or was shifting to other grades of paper in 1930, and that American mills were unable to compete with foreign production. The present recommendations, he said, were of vital importanc to 6,000 men employed in newsprint conversion and to 19,000 others employed in the production of newsprint.

Testimony by proponents was concluded with a statement by John E. Nelson, an attorney of Augusta, Maine, speaking for one of the smaller newsprint manufacturers in his state. The question of newsprint production is of vital importance to mills in his section, he declared, and the present prices for paper and pulpwood had depressed the value of timber lands in Maine by $80,000,000. He stated that if the price of newsprint were increased from $40.00 a ton to $45.00 a ton, it still would be $25.00 a ton, or 35 per cent under the prices obtaining in 1926.

Counsel Hanson Opens The Attack

Opening the attack on the proposed recommendations, Elisha Hanson, counsel for the American Newspaper Publishers' Association, charged that the purpose of the supplemental code was "to set up a monopoly in the manufacture and sale of newsprint paper for use in the United States, and to obtain for the monopoly absolute power over the price to be extracted from consumers of newsprint paper."

Mr. Hanson, who stated that he spoke for the publishers of 400 daily newspapers which consumed 80 to 85 per cent of newsprint used by dailies, charged that the newsprint industry in the United States was "utterly unable to supply the normal demand of this country," but that the newsprint industry of Canada could supply "the normal demand of that country, the entire demand of the United States as well, and have a large surplus for disposal in other markets of the world."

As i lustrative of present conditions, Mr. Hanson stated that one large domestic producer—the International Paper and Power Company—had transfered by far the greater portion of its newsprint manufacture to Canada, decreasing its manufacture in the United States 188,233 tons since 1926, and increasing its manufacture in Canada near-

ly 398,000 tons in the same period. This company, he stated, in 1933 sold in the United States 113,867 tons of newsprint paper manufactured in this country, and in the same year sold 56,000 tons of newsprint paper manufactured in Canada. In 1933, he charged, this company had idle capacity in Canada in excess of 225,000 tons.

After pointing out that the cost of newsprint paper was one of the two major items entering into the cost of producing a newspaper and that any code which would increase this cost would bring about the suspension of many newspapers in the United States, Mr. Hanson charged that the Code Authority's recommendations provide that "for every dollar of increase in price given to the United States manufacturer, the United States publisher must pay two dollars to a Canadian manufacturer."

Charge Violation of Sherman Act

There are United States newsprint mills producing "a substantial proportion of the United States production" which can meet on equal terms any competition in the United States market offered by any Canadian producers of newsprint paper, Mr. Hanson declared. He then went on to say that the supplemental code was "in violation of the Sherman Anti-Trust Act," and that certain portions of the plan were "in violation of the Clayton Act as well as the Federal Trade Commision Act." These alleged violations, he pointed out at length, and went on to charge that "the monopoly is planned to the last detail."

Mr. Hanson assailed the provision calling for payment for newsprint to be made in United States money, pointing out that for many years past United States dollars had been the standard of exchange when Canadian currency was depreciated, and that with present changed conditions Canadian manufacturers would be given the advantage of an increase in price through the proposed code.

The witness also objected that the proposals prohibiting the violation of minimum price provisions did not refer to the minimum prices of the individual members of the industry, but related to "one price, whatever it may be, as fixed from time to time and from which there can be no deviation by any member of the industry."

Nowhere in the proposed supplemental code, Mr. Hanson declared, "is any method provided for an individual consumer to obtain redress from any injustice, inequity, or illegality, or any adjustment whatever."

In concluding, Mr. Hanson declared that the supplemental code failed to give the American consumer the benefit of the much lower prices at which Canadian manufacturers now sell to consumers in other countries. He charged that the Canadian and American manufacturers "proposed to monopolize the United States market for newsprint, fix prices to United States consumers, and then dump their surplus in other markets of the world at whatever price it will bring."

Scripps-Howard Alliance Joins Attack

Paul Patterson, counsel for the Scripps-Howard Newspaper Alliance joined in attacking the proposed recommendations as benefitting Canadian producers at the expense of American labor, while permitting mills in Canada to dump their surplusage in other world markets. He also criticized the proposed zone price differentials, declaring them to be unsound economically in that they either would give an extra profit on deliveries or compel those publishers who were favorably located to bear an unjustified, added expense. Mr. Patterson declared there had been a large increase, since 1926, in shipments of newsprint by water, with a result that 53.5 per cent of all newsprint consumed in 1933 was water-borne. Savings by water shipments, ranging from $1 per ton in Youngstown, Ohio, to $2.50 in New York City and $3 in Buffalo, would be lost by his papers if the proposed zone differentials were approved, he testified.

Deputy Pickard interrupted to observe that it was assumed the differentials were worked out in such a manner as not to afford any mills a profit on deliveries, but to assure that the costs of newsprint were the same for all publishers in a specified area. "Your contention is," the deputy remarked, "that newsprint should be sold f.o.b., and 'the devil take the hindmost' among the publishers."

Small Publishers Approve Recommendations

L. A. Rossman, publisher of the Grand Rapids (Minn.) *Herald-Tribune*, presented a resolution adopted by 200 publishers of weekly newspapers in his state and calling for approval of the proposed code recommendations. After stating that these publishers recognized the fact that competition from other countries was bankrupting the newsprint industry in America, the resolution urged that the production of U. S. mills be continued "upon the largest basis made possible by timber resources and plant capacity." Speaking on his own behalf, Mr. Rossman stated that "the press" knew its large-size brothers were in the most favored position, and that it did not want "a comparatively few metropolitan dailies" to dominate the production of newsprint for this country. Daily newspapers as a group, he asserted, had saved $100,000,000 to $120,000,000 in 1930 by reason of their reduced purchases of newsprint at much lower costs; and this saving was of sufficient size to offset loss of advertising revenue and to bring the newspapers through the depression without financial impairment.

Stating that he "came 6,000 miles to speak against 5 lines in a code," S. R. Winch, representing the *Journal* and the *Oregonian*, of Portland (Ore.), and the *Chronicle* and the *Spokesman-Review*, of Spokane (Wash.), attacked the proposed zone delivered prices as "absolutely unfair" to papers such as those for which he spoke. He declared that his publishers could buy newsprint from mills not more than 8 and 12 miles distant, and they would object to paying the same delivered price for print stock as more remote newspapers.

Protests Against Zone Differentials

Charles R. Butler, president of the Inland Daily Press Association, testified that he had received protests against the zone differential from smaller dailies in Indiana, Wisconsin, Missouri, Nebraska and southern Illinois. One group of publishers, he stated, approved the zone system, while another group believed it was discriminatory; and if the system were to be continued, "there are many inequities which must be ironed out."

Deputy Pickard here interrupted to say that he would "be glad to have any suggestions from those who are friends of the system rather than its enemies" and to point out that "without a system, you merely create a whole new flock of other inequities." The witness replied that he was "unable to identify myself as a friend of this proposal."

Thomas A'len, counsel for the Great Northern Paper Company, operating a number of mills in Maine, testified that he could not join with brother members of the Newsprint Manufacturers Association in seeking approval of the proposed recommendations. He deplored the fact that the recommended proposals failed of suggestions for fully utilizing present capacities of U. S. mills; and that Canadian mills "inevitab'y" would become the controlling body in the industry. He pointed out that these mills were

bound only by the agreement entered into with the Code Authority, and were not subject to obligations assumed by American mills under the Newsprint Industry code for the protection of labor.

The hearing was concluded with testimony by Martin E. Newburg, representing employees at the Chishom (Me.) plant of the Internaional Paper Company. He stated that his fellow workers were "facing an alarming situation" which threatened extinction of the mills, and that "we'd like to hold our jobs; because if we don't, we don't eat." He declared that a recent meeting of International Paper Company employees had adopted a resolution endorsing the proposed code recommendations and urging that some constructive step be taken to stabilize prices.

Paper Codes Approved by General Johnson

WASHINGTON, D. C., February 7, 1934.—National Recovery Administrator Hugh S. Johnson last week approved codes of fair competition for the Corrugated and Solid Fibre Shipping Container Industry, and the Paper Disc Milk Bottle Cap Industry. The total of approved codes is now 249.

Major features of the codes approved follow:

CORRUGATED AND SOLID FIBRE SHIPPING CONTAINER INDUSTRY—The code establishes a standard 40-hour work week averaged over five weeks, with maximum week of 48 hours, and with overtime for all work in excess of nine hours in any one day and 45 hours in any one week. Night work by women is prohibited. Minimum wages for factory workers are 40 cents an hour for men and 35 cents an hour for women, in the North, and 32 cents an hour for men and 30 cents an hour for women, in the South. Office employees are to receive a minimum of $16 per week in the North and $14 per week in the South. It is estimated the code will increase the industry's payroll 25 per cent in the North, and 40 per cent in the South. The industry had 16,400 employees in August, 1933.

Provision is made whereby members of the industry may join in a voluntary agreement for sharing business. Any such agreement is to be subject to approval by the NRA and must contain no price-fixing provision.

In approving the code, General Johnson stayed, pending further order, a provision prescribing a waiting period between the filing and effective date of new price lists. He also reserved the right to order a further hearing on the code within 90 days. The code will become effective on February 12.

PAPER DISC MILK BOTTLE CAP INDUSTRY—This code, which is approved except that portion of Article VI, sections 2 to 9 which prescribes a waiting period between the filing and effective date of revised price lists and terms, provides for a 40-hour maximum work week with a weekly tolerance of eight hours to be paid for as overtime. A minimum hourly wage scale in the North of 40 cents for males and 35 cents for females and in the South of 35 cents for male and 30 cents for female workers is also established with a $16.00 a week minimum for office workers in the North and $14.00 in the South.

In General Johnson's report, it is estimated that the industry which employed 450 persons in 1929 will employ about 90 more according to the terms of the code. The total increase in payrolls in the industry is expected to be about 7.5 per cent.

In his approval of the code the Administrator ordered the suspension of the waiting period between the filing and effective dates of price and term lists pending his further order, providing that within 90 days he may direct that a further hearing be held on this point.

The code will become effective on February 12.

Awards for Government Paper

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., February 7, 1934.—The Government Printing Office has announced the following paper awards:

The Perkins-Goodwin Company will furnish 57,500 pounds (500,000 sheets) of yellow sulphite writing paper, 32 x 42, 115 pounds, No. 32 at 5.839 cents per pound; 40,000 pounds (100 rolls) of white sulphite writing paper No. 32 in 21-inch rolls at 4.584 cents; and 71,750 pounds (500,000 sheets) of 32 x 42, white sulphite writing paper, No. 40, 143½ pounds, at 4.834 cents. The Prudential Manufacturing Company will furnish 34,500 pounds (300,000 sheets) of 32 x 42, 1,000, 115 pounds, No. 32, 50 per cent white rag bond paper at 13.36 cents per pound; 51,000 pounds (500,000 sheets) of 28 x 34 102 pounds, same at 13.36 cents; and 25,800 pounds (300,000 sheets) of 21 x 32, 1000, 86 pounds, No. 48, same at 13.45 cents. The same company will also furnish 20,400 pounds, (200,000 sheets) of 25 per cent rag green bond paper, 28 x 34, No. 40 at 12.07 cents per pound; 8,000 pounds (100,000 sheets) of 22 x 34, 80 pounds, No. 40, same at 12.21 cents; and 53,500 pounds (550,000 sheets) various sizes, 50 per cent rag white bond paper at 13.45 cents and 13.59 cents. Bids for all these items were received on January 17.

The R. P. Andrews Paper Company will furnish 14,663 pounds (75,000 sheets) of 75 per cent rag, 38 x 48, 195½ pounds, lithograph finish map paper at 18 cents per pound. The Cauthorne Paper Company will furnish 2,000 pounds of No. 1 gummed kraft paper in 24-inch rolls at 7.49 cents per pound. The Mathers-Lamm Paper Company will furnish 15,000 sheets of 24 x 36 white cloth-lined paper at $105.83 per M sheets, while Reese & Reese will furnish 2,500 sheets of 24 x 36, Quaker drab cloth-lined paper at $151.99 per M sheets. Bids for these items were received on January 15.

The R. P. Andrews Paper Company will furnish 50,000 sheets of 17 x 22, 40 pounds, white gummed paper at $4.53 per M sheets, bids for which were received on January 12.

The Perkins-Goodwin Company will furnish 38,800 pounds (200,000 sheets) of 21 x 32½, 194 pounds, 50 per cent white rag index paper, single ply and 4,000 pounds of 75 per cent, 21 x 32½, buff ledger paper at 10.71 cents per pound. Barton, Duer & Koch will furnish 20,000 pounds of yellow calendered tag board in 23¼-inch rolls at 7.75 cents per pound. The same firm will also furnish 48,000 pounds (700,000 sheets) of yellow and salmon, 22 x 34, 25 per cent rag bond paper at 12.07 cents per pound and also 72,000 pounds (1,000,000 sheets) of 21 x 32, 50 per cent rag white bond paper at 13.36 cents per pound. Bids for all of these items were received on January 24.

The Perkins-Goodwin Company will furnish 108,000 pounds (12,000,000 sheets of 8 x 10½ white mimeograph paper at 5.55 cents per pound, bids for which were received on January 19.

New England TAPPI to Discuss Color

The next meeting of the New England Section of the Technical Association of the Pulp and Paper Industry will be held at the Nonotuck Hotel, Holyoke, Mass., at 6:30 p. m. Friday evening, February 16th.

Harry F. Lewis, dean of the Institute of Paper Chemistry, Appleton, Wis., will be present and will discuss the subject of "Paper Permanency."

A. E. O. Russell, the well-known color authority of Baltimore, Md., will discuss his color standardization plan, particularly with reference to paper coloring.

Anyone interested in being present is welcome.

General Johnson Signs Paper Codes

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., February 7, 1934.—General Hugh S. Johnson has signed the codes for the glazed and fancy paper group, tag industry, food dish and pulp and paper plates, and cylindrical liquid tight paper container industry.

Each of these codes contains a costing and open price selling plan, and prohibits selling below cost, except to meet competition. However each order of approval provides that these costing and open price selling sections . . . "insofar as they prescribe a waiting period between the filing with the Code Authority (i. e. actual receipt by the Code Authority) and the effective date of revised price lists or revised terms and conditions of sale be and they are hereby stayed pending my further order."

With regard to Codes for the Glazed and Fancy Paper, Tag, Cylindrical Liquid Tight Paper Container, and the Food Dish and Pulp and Paper Plate industries, the orders of approval have this further qualification: "That within ninety days I may direct that there be a further hearing on such of the provisions of said code as I may designate, and that any order which I may make after such hearing shall have the effect of a condition on the approval of said Code."

Other major features of the codes are:

GLAZED AND FANCY PAPER INDUSTRY—Standard 40-hour week. Weekly tolerance of eight hours, to be paid at overtime. Minimum wages of 40 cents per hour for males and 35 cents for females; $16.00 per week for office employees.

This industry employed about 1,800 persons in 1929, and about 1,500 in July, 1933. They worked an average of 46.8 hours per week. General Johnson, reporting the code's approval to the President, estimates that it will cause about 125 additional persons to be employed, and a payroll increase of about three per cent.

TAG INDUSTRY—Standard 40-hour week. Weekly tolerance of eight hours, to be paid at overtime. Minimum wage in the North, 40 cents per hour for males, and 35 cents for females. In the South, 35 cents for males and 30 cents for females. Office employees, $15.00 per week in the North, and $14.00 in the South.

The Administrator's report to the President says this industry employed in 1929, approximately 2,200 persons and in July, 1933, about 1,800. In September, 1933, the number of unemployed in the industry had been reduced by approximately one-half due to the effect of the President's Reemployment Program. The effect of the code will be to employ from 286 to 330 persons more than the July, 1933, total. The payroll increase resulting from the code will be 18 to 20 per cent.

CYLINDRICAL LIQUID TIGHT PAPER CONTAINER INDUSTRY—Standard 40-hour week with weekly tolerance of eight hours to be paid at overtime. Minimum wage in the North of 40 cents for males and 35 cents for females, and in the South of 35 cents for males and 30 for females. Office employees $16.00 per week in the North and $14.00 in the South.

Reporting the code's approval to the President, General Johnson said this industry employed in 1929, about 700 persons and in 1933, approximately 800. The number of plants in the industry increased from seven in 1928 to eleven in 1933. The payroll increase resulting from the code will be about 15 per cent.

FOOD DISH AND PULP AND PAPER PLATE INDUSTRY—Standard 40-hour week, with weekly tolerance of eight hours to be paid at overtime. Minimum wage in the North 40 cents per hour for males and 35 for females; South 35 cents for males and 35 for females. Office workers, North, $16.00 per week and South, $14.00.

The Administrator reports that this industry in 1929, employed about 1,600 persons and in July, 1933, about 1,800. The immediate effect of the code will be employment of about 108 additional persons, which number will probably increase to 270 by this summer.

Northwest Code Authority Meets

A meeting of the Northwest Regional Committee (No. 5) of the Code Authority of the Paper Distributing Trade was held at the Minneapolis Athletic Club on Wednesday, January 24. The members of the committee are as follows: Arnett W. Leslie, chairman, The John Leslie Paper Company, Minneapolis, Minn.; O. S. Barrie, treasurer, McClellan Paper Company, Minneapolis, Minn.; Ralph M. Beckwith, Minneapolis Paper Company, Minneapolis, Minn.; Harry Carpenter, Carpenter Paper Company, Omaha, Neb.; C. R. Field, Field-Hamilton-Smith Paper Company, Omaha, Neb.; Ernest Hoel, Carpenter Paper Company, Omaha, Neb.; W. P. Peterson, Peterson Paper Company, Davenport, Iowa; A. D. Riley, Pratt Paper Company, Des Moines, Iowa.

The Northwest Region (No. 5) includes the states of Minnesota, Iowa, North Dakota, South Dakota, Nebraska, Montana, Wyoming, northwestern Wisconsin and the western section of the upper peninsula of Michigan.

The Region is divided into four Trading Areas:

Area No. 1: Minnesota, North Dakota, South Dakota and those parts of Wisconsin and Michigan included in the Region.

Area No. 2: All of Iowa lying south of the two northernmost tiers of counties and east of State Highway No. 71.

Area No. 3: Nebraska and Wyoming and that part of Iowa lying west of State Highway No. 71.

Area No. 4: Montana.

Sub-committees for each of these Trading Areas have been appointed to effectuate provisions of the Code through local administration and enforcement.

W. O. Hawkins was elected executive secretary and has established his office at 2694 University avenue, St. Paul, Minn.

Inquiries in all cases should be addressed to the Trading Area Sub-committees rather than to the Regional Committee.

Philip Weston Estate Valued at $300,000

[FROM OUR REGULAR CORRESPONDENT]

PITTSFIELD, Mass., February 6, 1934.—Philip Weston, President of the Byron Weston Paper Company, of Dalton, who died in this city last week, left property valued at $300,000, according to the bond filed with the will for probate here. The bulk of the estate is left in trust, after some minor bequests, to his widow, Theodora P. Weston, upon her death, reverting to the three children, Philip J., Katherine L. and Theodora A. As soon as each becomes 25 years of age, his or her portion of the estate is to paid.

John J. White Goes With Philip Hano Co.

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., February 6, 1934.—John J. White Jr., son of John J. White, well known to the paper trade, has taken a position with the Philip Hano Company and will represent that Company in the Wall street section of New York City. Following his graduation from College, Mr. White has been engaged in the brokerage business.

TAPPI Engineering Program Noteworthy

An outstanding feature of Paper Week, February 19 to 22 will be the several operating, management and engineering symposia sponsored by the Technical Association of the Pulp and Paper Industry at the Waldorf-Astoria Hotel.

On Tuesday, February 20 at 2:00 P. M. the Engineering Division will present a program of particular interest to mill engineers.

W. S. Hadaway of the Westinghouse Lamp Company, an authority on illumination, will advise on the most up to date method of lighting paper mills and mill offices.

F. W. Parkhurst of the Rockwood Manufacturing Company, has been assigned to the meeting by the Leather Belting Association to report the findings made in a comprehensive engineering investigation by all the belting manufacturers of the best methods of transmitting power from motor to machine by means of belts. This study made at a great cost will be available to the paper industry for the first time.

J. F. O. Stratton and E. B. Swenson will report on the latest type of heat insulation and will show how aluminum, which is a good conductor of heat, may be used as an insulating material through the use of a new principle called emissivity.

The latest electrical engineering developments will be reported by G. M. Reed of the General Electric Company.

On Wednesday, February 21 at 9:30 A. M. F. W. Adams, professor of chemical engineering at the Massachusetts Institute of Technology will report on a survey recently made dealing with the rate of drying newsprint.

The use of white water on cylinder machines will be discussed by F. C. Stamm, general superintendent of The Upson Company.

Recent surveys on heat utilization in the sulphite and alkaline cooking processes will be discussed by O. L. Berger of the G. D. Jenssen Company and W. T. Webster of the J. O. Ross Engineering Company.

On Thursday, February 22 at 9:30 A. M. the symposium on Power Supply will bring together national authorities on the subject. The basis of the discussion will be a paper by Walter P. Gavit of the United Engineers and Constructors, Inc., on steam and power in the paper industry .

In addition to the outstanding engineers of the paper industry who have been asked to discuss this paper the following engineers of prominence have accepted invitations to be present and to discuss the paper: R. E. Hall of the Hall Laboratories; Louis Elliott mechanical engineer of the Electric Bond and Share Company; H. B. Lawrence of Henry L. Doherty & Company; and F. S. Clark, consulting engineer of Stone & Webster Engineering Corporation and chairman of the Edison Electrical Institute Committee on Relations and Arrangements between Utilities and the Paper Industry.

There will also be a paper on stokers by R. A. Foresman of Westinghouse Electric and Manufacturing Company which will be discussed by J. S. Bennett, mechanical engineer of the American Engineering Company.

A final discussion on Power Plant Reports will be led by A. G. Darling, chairman of the TAPPI Heat and Power Committee.

The Engineering Division meetings will be held under the chairmanship of M. H. Teaze of Hardy S. Ferguson & Co., consulting engineers.

Anyone interested in the engineering phases of paper and pulp mill operation is welcome to attend the meetings.

New E. D. Jones Multibeater

The E. D. Jones Company, Pittsfield, Mass., has announced to the paper industry the development of a new type beating engine known as the Multi beater. It has been designed for use in any and every type mill. The physical appearance is similar to that of the standard Hollander except for the use of three bed plates and Cantilever-type lighters which give roll adjustment to the true center of the three plates rather than the old vertical method. They claim, however, that through careful designing of other items, they have been able successfully to apply a different principle of beating that heretofore had long been looked upon with skepticism by many papermakers.

The success of their first installation in a rag mill operating no jordans has been so complete that many older theories of beating have been definitely exploded.

All things such as h.p. consumption, stock temperature, flexibility, fast and proper beating, circulation, mixing, dumping, maintenance, etc., that have been so desirable in beater performance, have not only been maintained but have in each case been definitely improved.

One installation is a 1600-pound beater running on all rag stock and is equipped with a 75 h.p. motor.

It has been possible to reduce beating time, which formerly took 16 hours in 800-pound beaters to 10 hours in the 1600-pound Multi-Beater with an average h.p. consumption of only 54. With the use of a jordan, this time could again be greatly reduced.

Circulation has been clocked up to 55 FPM with absolutely no lodgments while the temperature rise was only 45 degrees.

It is also pointed out that while this beater is tackled for high-grade ledgers and bonds, the unit is flexible enough for manufacture of blotting. The beater can be used for hydrating or cutting according to method of control used.

Automatic control of beating is another new feature greatly stressed that makes for fast and uniform beating with great saving in labor.

May Expand Russian Pulpwood Demand

[FROM OUR REGULAR CORRESPONDENT]

DEXTER, N. Y., February 5, 1934—The removal of the ban on Russian pulpwood by the Federal government is expected to prove beneficial to paper mills in this section and it is probable that the imported product will again meet with favor hereabouts. It was learned that the government has set aside previous findings that convict labor was used in the production of pulpwood in certain areas of Russia. Prior to the placing of the ban on the importation of the Russian pulpwood about three years ago several thousand cords were shipped yearly to paper mills in Northern New York. Among those using the product was the Dexter Sulphite, Pulp and Paper Company, Racquette River Paper Company and several other concerns. It was learned that the product was of very high quality and met with instant approval.

Newsprint Manufacturers Move

[FROM OUR REGULAR CORRESPONDENT]

On Thursday, February 1, 1934, the office of the Association of Newsprint Manufacturers were moved to the Chanin Building, southwest corner of 42nd Street and Lexington avenue, New York City. All mail intended for the Association should thereafter be addressed to the above caption.

Specifically, the room number in the Chanin Building will be 3903, and the new telephone number will be AShland 4-2443.

CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Chicago, Ill.—The Container Corporation of America, 111 West Washington street, has awarded general contract to the George Thomson & Sons Company, 30 North La Salle street, for improvements in factory at 1066 West Cornell street, in connection with general expansion and improvements recently referred to in these columns.

Lockland, Ohio—The Fox Paper Company is awarding contracts for equipment for installation in power plant for service at mill, including a new turbine unit to the Terry Steam Turbine Company, Hartford, Conn.; and condenser to the Elliott Company, Jeannette, Pa. Capacity of station will be increased 350 kw. Awards for miscellaneous equipment will soon be placed. W. E. Barrows, Reibold Building, Dayton, Ohio, is engineer.

Elizabeth, N. J.—The Sterling Paper Box and Games Company, Inc., recently organized with capital of $125,000, is said to be planning early operation of local plant for the manufacture of paper and cardboard boxes and containers, games and allied products. New company is headed by Charles L. and Fred T. Morris, 244 North Broad street, city.

Richmond, Va.—The Albemarle Paper Manufacturing Company is now using steam service from the Twelfth street plant of the Virginia Electric and Power Company, at its local Brown's Island paper mill, located approximately one-half mile from the power station. This replaces a service formerly handled direct by the paper company. A 12-inch steam main has been installed, with a 4-inch return line to the power plant. Current requirements at the mill total about 25-million pounds of steam monthly, with an average hourly flow of 40,000 pounds. It is understood that the elimination of the company plant previously furnishing steam for the mill will bring about increased operating efficiency and greater economy.

Jackson, Mich.—The Northern Paper Box Company, Saginaw, Mich., has leased former factory of the Auto Parts Company, Jackson, and will establish new plant at that location for manufacture of paper boxes and containers. The present plant will be removed there, and considerable increased capacity carried out. L. M. Hoch is president.

Stamford, Conn.—John A. Ferro, Inc., Stamford, has taken over property and business of the Stamford Metal and Paper Stock Company, 20-26 Chapel street, and will operate in the future. Increased operations are planned under the new ownership.

New York, N. Y.—The Spear Box Company, Inc., 270 Eleventh avenue, has filed notice of incorporation under Delaware laws with capital of 200 shares of stock, no par value, to manufacture paper boxes, cartons and kindred products William Conescu is president.

Detroit, Mich.—The Automotive Paper Company, recently organized by W. H. Kimball, 4612 Woodward avenue, and associates, with capital of 10,000 shares of stock, no par value, plans operation of local plant for the manufacture of a line of paper products for the automobile trade, including paper fabric specialties.

Emeryville, Cal.—The Western Waxed Paper Company, 63rd street, is completing work on a new one-story addition, recently referred to in these columns, approximating 10,000 square feet of floor space, and will occupy at once for general expansion. New structure is said to represent investment of about $25,000, including equipment.

New York, N. Y.—The J. J. Murphy Paper Company, 43 Wooster street, has leased space in building at Sixth avenue and 19th street, totaling about 40,000 square feet of space, and will occupy for new local storage and distributing building and sales headquarters. Present establishment will be removed to the new location. Morris Syrkin is president.

Chardon, Ohio—The Adams Bag Company, manufacturer of manilla and other paper bags and containers, is considering early rebuilding of portion of local plant on Bainbridge road, recently destroyed by fire. An official estimate of loss has not been announced.

Indianapolis, Ind.—The Inland Container Company, 700 West Morris street, manufacturer of corrugated paper boxes and containers, is said to have plans maturing for new addition to plant, referred to in these columns a number of weeks ago, to be one-story, about 75x250 feet, estimated to cost in excess of $65,000, with equipment.

Toronto, Ont.—Stanley Boxes, Ltd., manufacturer of corrugated and other boxes and containers, is considering new one-story plant on local site, reported to cost close to $45,000, with equipment. It is understood that work is cheduled to begin at early date. H. L. Caplan is manager, in charge.

Hoquiam, Wash.—The Grays Harbor Pulp and Paper Company has plans nearing completion and soon takes bids on general contract for new one-story building at mill for general operating and utility service. No estimate of cost has been announced.

Detroit, Mich.—The National Automotive Fibres, Inc., General Motors Building, manufacturer of fiber products, etc., has approved plans for one-story addition to plant on Hoover street. General building contract

has been let to H. G. Christman-Lansing Company, Fisher Building, city. No estimate of cost has been announced.

St. Louis, Mo.—The Brooks Paper Company, 213 North Second street, is planning early rebuilding of portion of plant, recently destroyed by fire with loss reported over $75,000, including equipment. Reconstruction will approximate a like sum. Everett Brooks is vice-president.

Emeryville, Cal.—The Paraffine Companies, Inc., 475 Brannon street, San Francisco, manufacturer of building papers, fiberized floor coverings and kindred products, is awarding miscellaneous contracts for work in connection with new one-story mill addition, recently referred to in these columns. Brick work has been let to Kroll & Co., Oakland, Cal.; roofing to the Western Roofing Company, San Francisco; and sheet metal to Edgar W. Anderson, Oakland. General contract will be handled by Barrett & Hilp, 918 Harrison street, San Francisco. New unit is estimated to cost about $40,000, with equipment, and is scheduled to be ready for occupancy at early date. Leland Rosener, 233 Sansome street, San Francisco, is engineer, in charge.

Rochester, N. Y.—Paper Service, Inc., recently organized with capital of $35,000, plans operation of local plant for manufacture of line of paper specialties, including storage and distributing facilities. New company is headed by David F. Teetor, 88 Gorsline street; and Kenneth C. Oberle, 452 Woodward avenue, Rochester and Buffalo, N. Y., respectively.

Ashland, Wis.—Superior Spruce, Inc., Ashland, wood pulp, is considering construction of new local storage and distributing center, with pulp hoist and other operating facilities. No estimate of cost has been announced.

Chicago, Ill.—The Supreme Box Builders, Inc., 620 South Kilbourne street, recently organized with capital of 400 shares of stock, no par value, plans operation of local plant for manufacture of line of paper boxes and containers. New company is headed by Harry L. Kagan and Arno L. Zinke.

Peoria, Ill.—Following recent acquisition of local property, the Muirson Label Company, Inc., 5827 Ridge avenue, Chicago, Ill., manufacturer of paper labels, etc., has established a new Peoria branch plant for label manufacture and allied paper converting service.

New York, N. Y.—The Bowater Paper Company, 18 East 48th street, has filed notice of change of capitalization from $65,000 to $25,000.

Peterboro, Ont.—The Peterboro Card and Paper Works, Ltd., is planning early rebuilding of portion of plant recently damaged by fire with loss estimated at close to $50,000, with equipment. A list of new equipment to be installed is being arranged and early quotations will be secured. L. A. Turner is one of the heads of company, which is affiliated with the National Card Mat & Board Company, 4318 Carroll street, Chicago, Ill.

Auckland, New Zealand.—The Timberlands Pulpwood, Ltd., Auckland, has plans maturing for new paper and pulp mill project, recently referred to in these columns, and proposes to break ground for initial units at early date. A large tract of land has ben secured near Wakatane, New Zealand, fronting on the Bay of Plenty. Plant will consist of several main buildings, with power house, filtration plant, water-pumping station, pulp wood storage units, machine shop and other structures. It is reported to cost close to $3,000,000, with machinery. L. A. DeGuerre, Wisconsin Rapids, Wis., paper mill engineer, is in charge of project.

Kemsley, England.—The Kemsley Paper Mill, Ltd., operated by Edward Lloyd, will carry out an expansion and improvement program in power development, with installation of turbo-alternator sets of 15,000 kw., 5,000 kw., and 750 kw., capacity, respectively, with complete auxiliary equipment. It is understood that the main units will be furnished by the English Electric Company, London, England. Other improvements will also be carried out in machinery and equipment at the mill.

New Companies

New York, N. Y.—The John W. Banker Paper Company, Inc., has been incorporated with capital of 1,000 shares of stock, no par value, to manufacture and deal in paper products. Incorporators of new company are James J. Sullivan, 430 East 86th street, New York; and Joseph Fischer, 641 Bedford street, Brooklyn, N. Y.

South Norwalk, Conn.—The Lessin-Liberty Paper Box Company, Inc., 114 Washington street, recently incorporated to manufacture paper boxes and containers, has filed notice of company organization, with Julius Lessin, president and treasurer; and Harry M. Lessin, secretary.

New York, N. Y.—A. Sancilio, Inc., has been incorporated with capital of $5,000, to deal in paper products of various kinds. Anthony Sancilio, 10 Gansevoort street, New York, is principal incorporator and head.

Boston, Mass.—Merchants' Paper, Inc., has been organized to deal in paper products of various kinds. E. Saslaw, 180 Columbia drive, Dorchester, Mass., is president and treasurer; Leo Saslaw will be an official of new company.

Rochester, N. Y.—The Union Paper and Twine Company, Cleveland, Ohio, has filed notice of organization to operate in New York, with capital of $100,000. Offices will be maintained at 190 Mill street, Rochester. C. N. Bicknell is treasurer.

New Britain, Conn.—The National Paper Company has been incorporated with capital of $50,000, to manufacture and deal in paper goods of various kinds. Alexander E. Siderowf, 55 Eddy Glover boulevard, New Britain, is principal incorporator and heads new organization.

New York, N. Y.—The Selig Paper Company, Inc., has been incorporated with capital of $10,000, to deal in paper products of various kinds. The principal incorporator is Earl Q. Kullman, 42 Broadway, New York, Archie Tolk, 2130 Broadway, is company representative.

Quincy, Fla.—The Quincy Box Company has been organized by A. S. Ginter and R. W. Sylvester, both Quincy, to manufacture and deal in paper, cardboard and other boxes and containers.

Chicago, Ill.—The American Molded Products Corporation, 160 North La Salle street, has been chartered with capital of 100 shares of stock no par value, to manufacture and deal in pulp and other molded specialties. The incorporators are William S. Field, Harry and Louis Morrison.

Rochester, N. Y.—The Meng-Stephens Company, Inc., has been incorporated with capital of $15,000, to deal in wall papers and kindred paper products. The principal incorporators are Harold A. Meng, 25 Vernon place, Brighton, N. Y., and Howard H. Stephens, 110 Elm drive, Rochester.

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COMING EVENTS

American Paper and Pulp Association, Fifty-Seventh Annual Convention Waldorf-Astoria Hotel, New York, February 19-23. Annual Meeting, Friday, February 23.

Technical Association of the Pulp and Paper Industry, Convention, Waldorf-Astoria Hotel, New York, February 19-22. Luncheon, Thursday, February 22.

Salesmen's Association of the Paper Industry, Annual Meeting, Waldorf-Astoria Hotel, New York, Tuesday, February 20.

New York Association of Dealers in Paper Mill Supplies, Annual Banquet Hotel Commodore, Wednesday, February 21.

National Paper Trade Association of the United States, Convention, Waldorf-Astoria Hotel, New York, February, 19-21.

AN INTERESTING BOARD PLAN

The interesting news comes from Washington that manufacturers of kraft board and paper board have proposed to the NRA that they be allowed to attempt rehabilitation of their industry through setting up a corporation armed with money and authority to buy up plants and dismantle those which are an uneconomic burden on the industry.

The propsal, which is something entirely new in capitalistic cooperation under the recovery program, was presented to the NRA in the form of an agreement entered into by manufacturers claiming to have produced 50.7 per cent of the total tonnage of kraftboard and paperboard in 1933.

The plan will be aired at a public hearing to be conducted by Deputy Administrator W. W. Pickard at the Raleigh Hotel on Thursday, February 15.

If approval of the NRA and President is obtained, the industry proposes to create a corporation with initial capital stock of $1,000,000 to be sold throughout the industry, for the purpose of acquiring plants which "cannot operate successfully under normal business conditions." The corporation would operate such of the plants as fitted into the picture of a sound industry and would sell, lease or otherwise dispose of the others. NRA officials in touch with the matter said that no attempt would be made to purchase plants against the wishes of the owners.

A somewhat similar scheme for solving the surplus capacity problem in industries is being tried out in England and has recently received attention in American magazines and newspapers. It was referred to in an interesting article entitled "The New Business Era," by Charles W. Boyce, executive secretary of the American Paper and Pulp Association, in the issue of the Paper Trade Journal of May 4, 1933, as follows:

"In either event control of submarginal capacity is necessary. It is by no means equitable to force the most efficient producers to hold an umbrella over the least. In fact, the problem of submarginal production has always been difficult in the paper industry, for few mills are eliminated permanently by competitive means. It is true that a mill may close down or that the management may be changed under adverse circumstances, but it is usually certain that the mill will eventually start up again, and perhaps under more favorable competitive conditions.

"The control of these units cannot be left to chance. After considerable thought on this subject, it appears to me that the only way that this can be accomplished is by purchase and deliberate scrapping by the stronger companies in the group. This is indeed an expensive method of control, but it may be far less expensive in the long run than the attempt at elimination by competition that we have witnessed during the recent past. There is an advantage in that the orders of the purchased company become the property of the purchasing mill, which should permit expansion of production by the purchaser. This means, obviously, that the system of industry control must be a flexible one, in order that the units that undertake the elimination of marginal and submarginal production may profit from their service to the industry."

The kraftboard and paperboard manufacturers sponsoring the plan before the NRA have named A. C. Goodyear and Sidney Frohman, leaders in the industry, as a committee to organize the corporation and put it in operation.

The stock would be sold in equal shares to (a) manufacturers of kraft or sulphate board; (b) manufacturers of "jute" container and straw, chestnut, or pinewood corrugating materials; (c) manufacturers of boxboard, and, (d) manufacturers of other board.

Each manufacturer would be obliged to buy stock in an amount equal to 50 cents per ton of his 1932 production.

The proposal came before the Recovery Administration with the signatures of officials of 21 companies, as follows:

The Auglaize Box Board Company, Terre Haute Paper Company, Rockford Paper Mills, Central Fibre Products Company, Container Corporation of America, Continental Paper Company, Robert Gair Company, Hinde & Dauch Paper Company, Hummel & Downing Company, Kickhefer Container Company, Eddy Paper Corporation, MacAndrews & Forbes Company, Mead Paperboard Corporation, Morris Paper Mills, Fibreboard Products Company, National Paper Prod-

ucts Company, Bogalusa Paper Company, Albemarle-Chesapeake Company, West Virginia Pulp and Paper Company, Southern Kraft Corporation, and Ontonagon Fibre Corporation.

The board division of the paper industry has for a great many years been peculiarly susceptible to the disturbances influenced by unbalanced conditions and it is to be hoped, therefore, that the NRA authorities will allow this proposal to be carried out and that it will succeed. It will be watched with great interest by paper men in general and if it does what it is expected to do, it is not unlikely that it will be endeavored to apply it in some other sections of the paper industry.

THE NEW DOLLAR

As was expected, President Roosevelt immediately after its passage by Congress last week signed the monetary bill providing for a devalued dollar. The bill becomes law practically as suggested to Congress with one important exception. Congress has provided that it be purely emergency in character and temporary. After two years it will lapse, although the President may by proclamation extend it to three.

The bill brings about these important and radical changes.

Reduces the dollar's gold weight from 25.8 grains to 155/21 grains, 9/10 fine, making its gold value 59.06+ per cent of the par fixed by the act of 1900. This means the American dollar is now worth 59.06 cents plus in gold.

Fixes $35 (less a ¼ of 1 per cent mint charge) as the price this government will pay per fine troy ounce for gold mined in or delivered to the United States, authorizing the Secretary of the Treasury, through the New York Federal Reserve Bank, to begin purchasing at that price immediately. The government will also sell gold at $35 an ounce if that method appears necessary to keep the dollar at 59.06 cents plus, or any later value that may be set.

Takes title for the government on all the gold held by the Federal Reserve Banks, for which new gold certificates will be given to these banks.

Creates a dollar profit on this gold, estimated at $2,792,876,058, and credited to the United States Treasury.

Sets up $2,000,000,000 of this sum to be used as a fund, operated exclusively by the Secretary of the Treasury, to stabilize the dollar on international exchange at as near 59.06 cents as can be done; and to be used also to support the government bond market when necessary.

Puts the United States on an international gold bullion standard as a substitute for the old gold standard.

This is, of course, all part of an effort to raise prices on the theory that the value of all money refers back eventually to gold and that if it takes more money to buy gold, it should take more money to buy other things.

It is not real stabilization, but it is a step in that direction and authorities whose opinions are entitled to respect apparently believe that actual stabilization is not as remote as it seemed only a short time ago.

W. W. Pickard to Speak

The principal speaker at the luncheon of the Technical Association of the Pulp and Paper Industry on Thursday, February 22 at the Waldorf-Astoria Hotel will be W. W. Pickard, Deputy Administrator, Paper Division, National Recovery Administration, Washington, D. C.

Since this will be Mr. Pickard's only appearance before any large group during Paper Week the luncheon will be open to anyone who may be interested in being present. To assure accommodations, reservations should be made as soon as possible with R. G. Macdonald, Secretary of TAPPI, 122 East 42nd street, New York, N. Y.

The representatives of paper mills who have attended code hearings in Washington have been impressed with the competent and sympathetic manner in which Mr. Pickard has conducted these affairs. Although his subject has not been announced Mr. Pickard will probably report the progress made by the paper industry toward improved group action. He will also probably indicate some of the interesting problems with which the Code Authority has been confronted in its process of making current history. There is no doubt but that Mr. Pickard's talk and the subsequent discussion will lead to a better understanding of the plans and purpose of the National Recovery Administration.

Paper Safety Men Meet at Nennah

A series of five meetings devoted exclusively to safety in paper and pulp mills was started at Neenah, Wis. Monday evening, February 5 and will be held weekly. The sessions are held under auspices of the vocational department of Neenah high school, with an anticipated attendance of hundreds of mill employes.

Harry O. Eiken, director of the vocational school at Green Bay, Wis., opened the series with an address, "The Recovery Program Challenges Safety." The discussion which followed was on the subject, "Physical and Financial Effects."

Other speakers for the respective meetings will be: C. O. Otto, Employers Mutual Liability Company, Wausau, Wis., "Safety as an Investment"; Fred VanLiew, Kimberly-Clark Corporation, "A Functioning Program of Safety"; J. A. Limpert, Kimberly-Clark Corporation, "Your Duties and Mine in a Safety Program"; Dr. T. D. Smith, "Safety as Seen by a Doctor."

Graham Paper Co. Has Grand Year

[FROM OUR REGULAR CORRESPONDENT]

ST. LOUIS, Mo., February 5, 1934—The Graham Paper Company at its annual stockholders and directors meeting yesterday elected P. A. Harris Vice-President and Director.

Mr. Harris has been with the Graham Paper Company twenty-seven years, has occupied many different positions in the organization, and for years has been manager of the Writing Paper Division. He is well-known among the paper mills and by the printing trade throughout the country.

The Graham Paper Company are very enthusiastic over the business outlook for 1934. Nineteen-thirty-three was much better with them than the previous year. This large national distributing company did not lay off a single one on account of the depression and during the past year they retired one half million First Preferred stock.

How Zinc Sulphide Pigments are eliminating sales problems

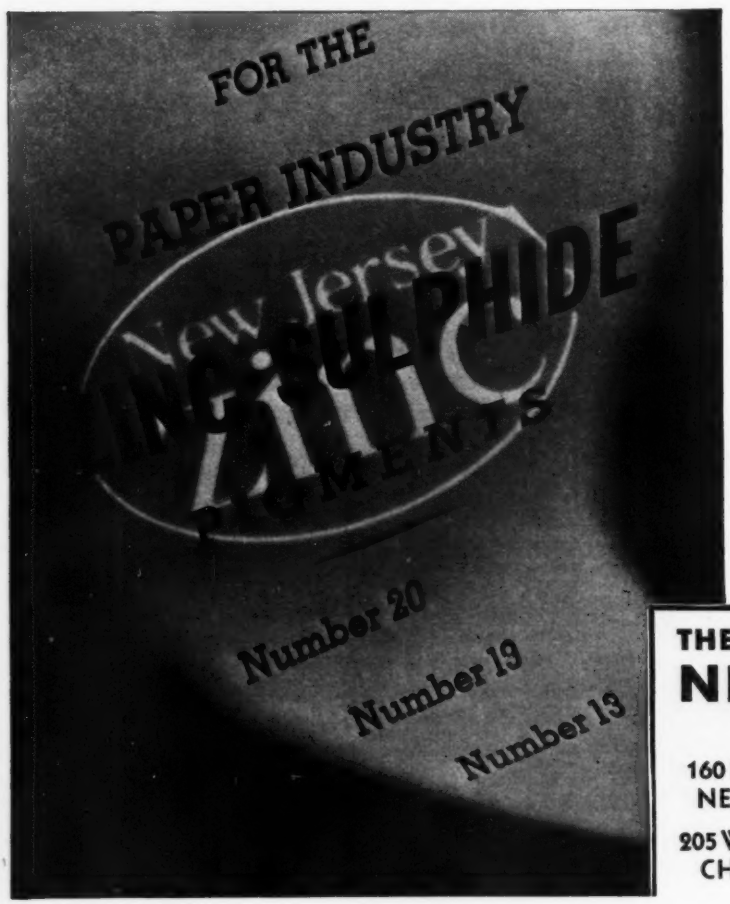
without presenting any unusual manufacturing problems

One Manufacturer required a sulphite bond of better color and brightness together with an increase in opacity . . . **A Zinc Sulphide Pigment did it**

Another Manufacturer required a waxed bread wrap, opaque and bright, at a minimum cost . . . . . **A Zinc Sulphide Pigment did it**

A Third Manufacturer required an 80 lb. offset to match the color and opacity of 100 lb. offset . . . . . **A Zinc Sulphide Pigment did it**

A Fourth Manufacturer required a boxboard with better color at no increase in cost **A Zinc Sulphide Pigment did it**



These are just a few among many manufacturers, many problems

We shall be glad to tell you which Zinc Sulphide Pigment (there are three strengths) is the most economical for your particular problem.

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Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

Beater Addition Of Titanium Pigments*

By William R. Willets[1]

Abstract

The general theory of the opacity and brightness of paper is discussed with special reference to the titanium pigments. The opacity and brightness developed by the use of titanium pigments, in comparison with the common paper fillers is shown for unwaxed and waxed papers. The opacity of titanium pigments in a waxed or oiled paper demonstrates their efficiency in preventing "show through."

The main factors affecting retention of fillers in paper are reviewed and data for the retention of titanium pigments in general given.

The general history, manufacture and use of titanium pigments has been described in a previous article *(23)*. In another article *(24)*, the writer described briefly the general effect of adding these pigments to paper.

Since that time much more experimentation has been done and this article will attempt to briefly summarize some of the more important data obtained.

Three titanium pigments were used in the investigations; titanium dioxide (Titanox-A), a titanium dioxide composite containing 25 parts of titanium dioxide to 75 parts of blanc fixe (Titanox-B), and a titanium dioxide composite containing 17 parts of titanium dioxide to 83 parts of blanc fixe (Titanox-B-17). A commercial grade of domestic clay was likewise tested so as to furnish a basis of comparison between the titanium pigments and the fillers more commonly used in paper.

Opacity

A brief exposition of the theory of opacity will explain the efficiency of titanium pigments as opacifying agents. Opacity depends primarily on refractive index and the higher the refractive index the greater the reflection and consequent opacity. As the refractive index of the pigment approaches that of the medium in which it is suspended the opacity diminishes. In a sheet of paper this medium may be considered as cellulose and air, and the difference between the refractive indices of these media and the pigment will determine the opacifying power of the pigment. If the sheet is waxed (or penetrated by oil as in printing), the difference in indices of refraction between the wax (or oil), cellulose, and the pigment will determine the opacity.

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* To be presented at the annual meeting of the Technical Association of the Pulp and Paper Industry, New York, N. Y., Feb. 19 to 22, 1934.
[1] Member TAPPI, paper chemist, Titanium Pigment Co., Inc., 111 Broadway, New York City.

A table of commonly accepted values for the refractive indices of various substances follows:

TABLE I
REFRACTIVE INDICES

Air	1.00	Clay	1.55
Water	1.33	Calcium carbonate	1.56
Paraffin	1.43	Asbestine	1.56
Linseed oil	1.48	Talc	1.57
Tung oil	1.52	Calcium sulphate, anhydrite	1.58
Gypsum	1.52	Titanox-B	1.89
Cellulose	1.53	Titanox-A (titanium dioxide)	2.55

A study of this table will show that all the common fillers have indices of refraction very similar to cellulose. As has been pointed out, when the index of refraction of the filler approaches that of the medium in which it is suspended the opacity is lessened. However, the titanium pigments have indices of refraction which differ very considerably from those of cellulose and air and therefore the opacity resulting from their use is very marked.

For example, the opacity of a sheet of unloaded paper is dependent on the difference between the indices of refraction of air and cellulose, i.e. between 1.00 and 1.53. If a filler be added, another variable will enter into the picture, namely, the index of refraction of the filler. If this is high the opacifying effect of the filler will be correspondingly great, if it is similar to that of cellulose the opacifying effect will be virtually nil.

A sheet becomes more transparent on waxing because the difference between the indices of refraction of wax and cellulose is less than the difference between air and cellulose. In this case, likewise, a pigment with a high refractive index will be the most effective as an opacifying agent.

The same factors enter into the picture in the matter of "show-through" as the effect of the printing ink vehicle is very similar to that of wax. "Show-through" results from the penetration of printing ink vehicle rendering that portion of the paper penetrated by the vehicle transparent and allowing the printed matter to show through on the other side of the sheet. The titanium pigments remain opaque in wax or oil and naturally this minimizes "show-through."

Within certain limits a decrease in particle size will improve opacity, because of the increase in the number of refractive and reflective surfaces resulting therefrom. The titanium pigments fall within these size limits. The high degree of dispersion of these pigments is likewise important as it would be useless to use a finely divided pigment and then allow the small particles to aggregate.

Opacity may result from two sources, absorption and refraction of light. Naturally, the first of these factors would result in a dull sheet. For example, the use of a black dye results in a certain degree of opacity, due to the

absorption of light; the resultant paper, however, is dull in tone. The same applies to a dull, lusterless pigment. However, the titanium pigments are bright and opacity results not from absorption of light, but from its refraction and reflection. The pigmented sheet is therefore bright and white in appearance.

The brightness of the titanium pigments may be more readily understood when it is noted that the usual standard for brightness, a magnesium carbonate block, reflects 98 per cent light, while titanium dioxide reflects 95 per cent, almost as much.

The superiority of the titanium pigments over the ordinary fillers used for paper is clearly demonstrated in Fig. 1. Actually, unless used in large amounts, the ordinary fillers do not increase the opacity and brightness of the sheet very appreciably. Titanium dioxide produces very sharp increases in both opacity and brightness, the effect of Titanox-B and B-17 is somewhat less, but still very much more than that of the ordinary fillers.

Portions of the same sheets were waxed to give an indication of their value as a waxing stock for use in opaque bread wrappers, etc. It will be seen that waxing enhances the effect of the titanium pigments.

As has been pointed out the penetration of the sheet by wax, as in the manufacture of waxed papers, or by oils, as in the case of printing invariably results in making the sheet more transparent. In the case of printing this results in "show-through."

If titanium pigments are used, not only are the initial opacity and brightness much higher but the actual loss in opacity resulting from the penetration of wax or oil is much less. Fig. 2 shows why the titanium pigments are so effective for producing opaque waxings, and in preventing "show-through."

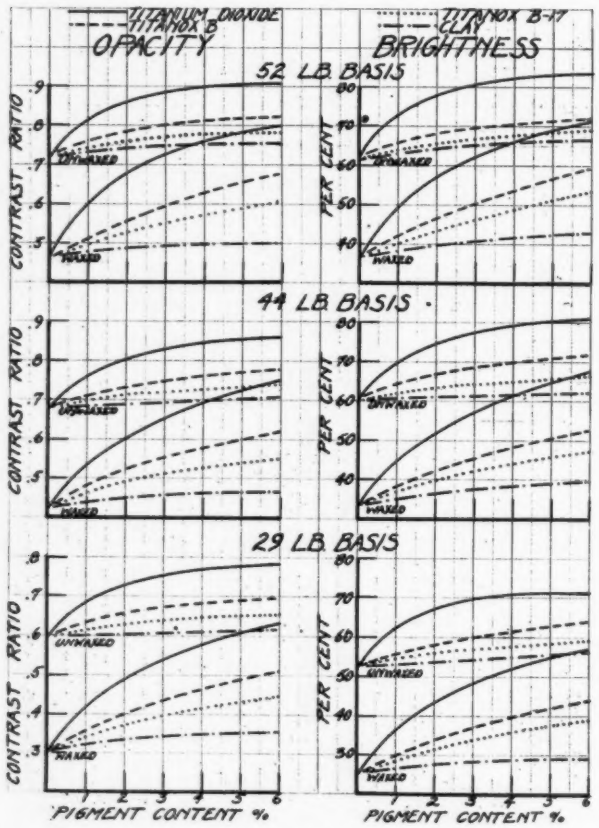

FIG. 1

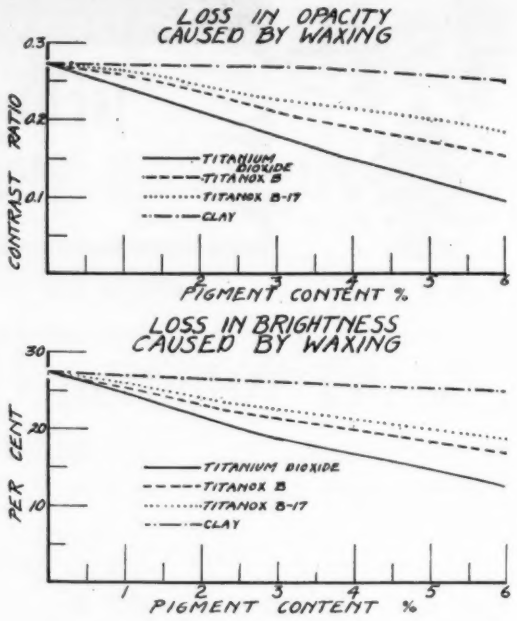

FIG. 2

Retention

Not only should a pigment for use as a beater addition produce the desired properties of opacity, brightness and whiteness, but such a pigment should likewise be retained satisfactorily by the paper stock.

Probably few subjects are more widely discussed or less understood than the retention of fillers. There is a wide discrepancy of opinion on the mechanism involved, whether it is simple filtration, colloidal attraction, or a combination of both.

However, there are certain factors affecting retention which are generally agreed upon (as shown by a survey of the literature) and which have been checked by the writer, both in the paper development laboratory of the Titanium Pigment Company, Inc., and in commercial practice.

It is very generally agreed that the type of stock affects retention. Long fibered pulps retain fillers better than short fibered pulps *(1) (4)*.

Beating, with resultant hydration of the pulp and the formation of a fine net work of fibrillae likewise increases retention *(1) (2) (4) (5) (9) (14) (19)*.

Retention is decreased with increasing solubility of the filler. This explains the poor retention of the various forms of calcium sulphate *(4) 20)*.

Retention is probably a combination of colloidal attraction, until the adsorption affinities of the filler and fiber are saturated, and simple filtration *(9) (13) (16) (21)*. The former benefits the retention of fine particles *(6) (10) (11) (12) (17)*, and the latter of course particles *(1) (4) (8) (14) (15)*. Inasmuch as titanium pigments invariably are retained better than the ordinary fillers it is evident that some sort of colloidal phenomena must occur as the titanium pigments are much finer than the fillers commonly used.

For any given filler there is a point of the filler-fiber ratio at which the retention reaches a maximum *(1) (4) (7) (8) (15) (19) (20)*. However, this optimum filler-

fiber ratio for the titanium pigments covers a large range which lies between 2 to 10 per cent addition, i.e., retention decreases if less than 2 per cent or more than 10 per cent of the pigment is added, based on the fiber. Between these points retention is practically constant.

The use of rosin size, or silicate of soda, precipitated by alum, results in increased retention; an increase in sizing degree will likewise increase retention. *(2) (3) (4) (8) (9) (13) (14) (15) (17) (18) (19).* Alum probably aids retention by hydrolysis and precipitation of aluminum hydroxide as well as aluminum resinate (in the case of rosin size) or aluminum silicate (in the case of silicate of soda) since retention is increased by the use of alum in excess of that needed to precipitate the size or silicate *(1) (2) (6) (14) (15).*

Various machine variables tend to decrease retention. Some of these are *(4) (8) (13) (14) (17) (19) (20) (21)*: 1. Increasing dilution of the stock on the machine wire, 2. Increased machine speeds, 3. Increased shake, 4. Increased suction, and 5. Decreased sheet weight.

Since the advent of modern white water systems, the factors noted above are not as important as formerly. Naturally the amount of filler recovered will depend largely on the efficiency of the white water system; the more nearly it approaches a "closed" system the more nearly will the recovery of filler (and fiber, too, for that matter) approach a maximum.

It should be emphasized that the retention of fillers will vary from mill to mill, in fact from machine to machine in an individual mill. A survey of the factors affecting retention will indicate why this is the case. No two mills use identical stocks, beat the same, use the same amounts of size, silicate and alum or have the same machine and save-all conditions. In brief, retention will depend more on actual mill conditions than on the nature of the filler used.

A Tested Method for Securing Retention

A method for securing satisfactory retention was developed in the Titanium Pigment Company paper laboratory, and has been checked numerous times in mill practice. The filler is added together with 2 per cent rosin size or silicate of soda (based on the weight of fiber) soon after the beater is furnished and the pulp slushed. (A mixture of both rosin and silicate may be used, if desired.) A solution of a modified starch when used in connection with rosin size, but not with silicate of soda, may improve retention over the method indicated above. In this case the rosin size should be added shortly after the beater is furnished and a slurry of the pigment in the starch solution about midway through the beating cycle. Towards the end of the beating cycle sufficient alum is added to thoroughly precipitate the size. It should be noted, that because of the extreme inertness of the titanium pigments they will not be affected regardless of the pH in the beater or on the paper machine. This is a distinct advantage as sufficient alum may be added to thoroughly complete the sizing reaction.

Using the method as outlined above in connection with the manufacture of handsheets made from pebble-mill treated sulphite pulp average retentions of 63 per cent for titanium dioxide, 60 per cent for Titanox-B and Titanox-B-17, and 50 per cent for clay were obtained. Actual mill practice usually results in retention of titanium pigments considerably in excess of these figures, in certain mills having very efficient white water systems retentions of 90 per cent and better have been reported, 80 per cent is not unusual but 70 per cent is probably a more average figure.

Conclusions

The foregoing brief review shows the advantages of titanium pigments when used as fillers in the beater. To briefly summarize, pigments for use as beater additions should have certain distinct properties: 1. High refractive index, 2. Small particle size, 3. Good dispersion, 4. Whiteness and brightness, 5. Good retention, and 6. Chemical inertness.

Titanium pigments have all these properties. Their high refractive index, small particle size, whiteness and brightness result in the development of optimum opacity and brightness.

The opacity of the titanium pigments in wax or oil renders them exceedingly suitable for the manufacture of opaque waxed papers, or for food containers where there is contact with fats or grease. This same property tends to minimize "show-through" in the finished sheet.

Their fineness results in excellent printing surface, and the absence of grit reduces wear and tear on paper making and printing equipment.

The retention of titanium pigments is better than that of the fillers commonly used.

Their inertness prevents discoloration in the beater or on the paper machine, regardless of the pH, and likewise prevents discoloration in the finished paper.

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Pulp and Paper Index Number

The December employment index number for paper and pulp industry was 92 compared with 93.1 for November and 73 for December, 1932, taking 1926 at 100 according to the Bureau of Labor Statistics. The December pay-roll index number was 61.4 compared with 62 for November and 46.7 for December, 1932.

In the paper box industry the December employment index number was 83.6 compared with 88.4 for November and 71.9 for December 1932, while the pay-roll index number in December was 69.4 compared with 72.2 for November and 58 for December, 1932.

Modern Lighting Practice in Paper Mills

by W. S. Hadaway[1]

Abstract

A report is given of the most advanced ideas regarding the ways in which the best lighting intensities can be obtained in paper mills and industrial offices. Details concerning the types of lamps to use are also shown and emphasis is given to the economy of wiring for the lighting system.

Good illumination is so universally recognized by modern industry that the advantages to be derived are fairly well defined. Whether we depend largely upon daylight alone, upon artificial light alone, or upon a combination of both. the industrial executive of today has grown accustomed to observe such benefits as reduction of accidents, greater accuracy in workmanship with improved quality of product, increased production, less eye strain, and greater contentment of workers.

One disabling injury occurred every 31 minutes of the working day in the pulp and paper mills in the United States during 1932, according to figures compiled by the National Safety Council. Insurance company statistics say further that poor lighting is responsible for 18 per cent of all industrial accidents.

The accidents caused by poor lighting are all the more reprehensible because not only may they be easily remedied but the remedy has many benefits other than the mere prevention of injury. Accidents caused by carelessness, inattention, or ignorance can be eliminated only by a continued and painstaking educational campaign. On the other hand an immediate reduction in the number of accidents, resulting from improper lighting, can be effected by simply installing proper equipment and operating it under competent direction.

RECEIVED Jan. 9, 1933.
* Presented at the annual meeting of the Technical Association of the Pulp and Paper Industry, New York, N. Y., Feb. 19-22, 1934.
[1] Illuminating engineer, Westinghouse Lamp Company, Bloomfield, N. J.

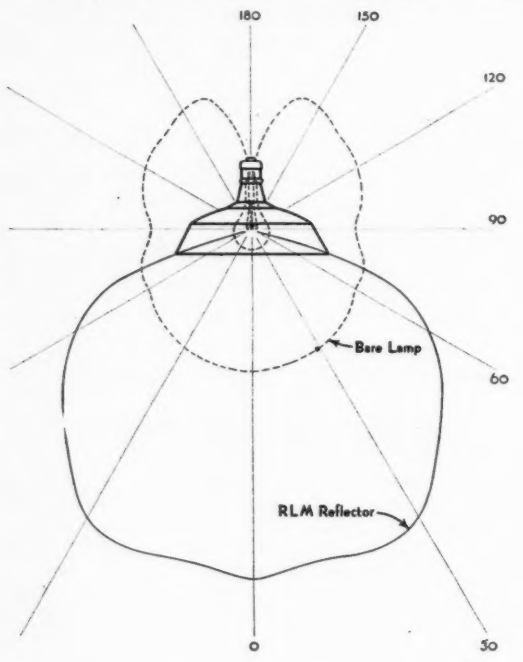

FIG. 1
Light distribution curves.

TABLE I
RECOMMENDED LIGHTING INTENSITIES IN PULP AND PAPER MILLS

	Footcandles	
	Good Practice	Minimum
STORAGE		
Rough	3	2
Fine or Medium	10	5
PAPER MANUFACTURING		
Beaters, Machine Grinding	6	4
Calendering	10	6
Finishing, Cutting & Trimming	15	10
MACHINE SHOPS		
Rough Bench and Machine Work	10	6
Medium Bench and Machine Work		
Ordinary Automatic Machines		
Rough Grinding, Medium Buffing and Polish	15	10
Fine Bench and Machine Work		
Fine Automatic Machines, Medium Grinding, Fine Buffing and Polishing	20	12
Extra Fine Bench and Machine Work		
Grinding (Fine Work)	50–100	25
OFFICES		
Private and General		
Closed Work	15	10
No Close Work	10	8
Drafting Room	25	15

NOTE:—For processes not listed, use values recommended for comparable operations.

Though it is difficult to measure the saving that adequate illumination effects in increased production and improved quality, these savings are real, nevertheless. In numerous industries the saving effected by modern lighting is more than enough to pay for the cost of installation.

Measuring Light

The unit of measure for illumination is the footcandle. A good idea of one footcandle of illumination may be had by holding a newspaper so that the light from a bare 25 watt tungsten filament lamp strikes the page perpendicularly. If the paper is held 5 feet from the lamp the illumination will be 1 footcandle. If held 2.5 feet from the lamp the illumination will be 4 footcandles.

Illumination in the factory or office may be measured with a small, inexpensive meter actuated by a photo-electric cell. There are now two "pocket-size" meters of this description on the market, namely, the Weston Sightmeter and the Westinghouse Right Light Meter. No batteries or lamps are required to operate these meters and they need never be re-calibrated unless damaged by improper usage. Direct readings in footcandles appear on a scale which resembles that on a voltmeter or ammeter. To measure the illumination on any machine or work bench, the meter is merely held at that point and the reading taken from the scale.

When checking the illumination with a footcandle meter the reading should be made at the point in a plane where the light strikes the object of vision. Should that object be a horizantal surface, such as a workbench or desk, the instrument should be held in this plane when making a reading. If the object of vision be in a vertical plane, such as calendar stacks, the light meter should be held against that surface.

When we say the lighting in a room is 10 footcandles, we mean the illumination obtained by averaging a number of readings at different locations in a horizontal plane 30 inches above the floor. Unless otherwise stated all illumination data mentioned hereinafter will refer to the average illumination on this horizontal plane.

Over a period of years, the Illuminating Engineering Society has gathered voluminous statistics on industrial

lighting. From these they have been able to arrive at correct lighting intensities for all classes of industrial operations. These intensities are operating values, that is, they apply to measurements of the lighting system in ordinary use and not simply when the lamp and reflector are new and clean. The lighting intensities applicable to pulp and paper mills are shown in Table I.

Selecting Lighting Equipment

In the design of lighting equipment the reflecting refracting, and diffusing properties of many different materials are employed to accomplish specific illumination results. The use of any accessory with a lamp involves some loss of light by absorption, but this is more than compensated for by the gain in diffusion and in the amount of light that is directed to useful areas.

The use of the RLM reflectors for lighting an industrial interior for example, will greatly increase the efficiency of the lighting system over that which uses bare lamps only. The reason is that about 50 per cent of the light from a bare lamp goes to the ceiling and high on the walls instead of down to the working plane. If the walls and ceiling are dark in color, they absorb and consequently waste a large percentage of the light striking them. With RLM reflectors, most of the light generated by the lamps is directed downward to a useful plane. This is a problem of light distribution. The diagram (Fig. 1) shows, superimposed for sake of comparison, the light distribution from a bare lamp and that from a lamp fitted with an RLM reflector.

The RLM reflector is the type most widely used today for general illumination purposes in mills and factories. The character of industrial lighting, however, is governed by varying conditions, such as ceiling height, type of work, and size of machine, so that numerous designs of lighting equipment are necessary in order to provides the most efficient illumination for the job at hand. The standard types of reflectors and the class of work for which they are specially fitted are shown in Table II.

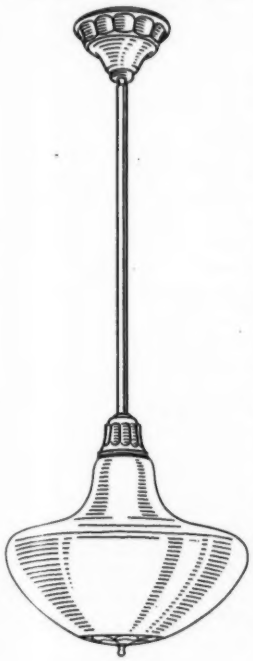

FIG. 2
Direct type of lighting unit.

Lighting Industrial Offices

A different class of work is carried on in the offices of factories and mills and consequently they should be lighted in accordance with office practice. Where, in the factory, direct lighting is always used with perhaps a few exceptions in highly specialized industries, the industrial offices may choose between direct and some form of indirect.

Accordingly, lighting equipment used in offices is divided into two main classes, direct and indirect. With the direct type, (Fig. 2) which is the most efficient of the two, over 50 per cent of the light is reflected downward. This type of unit usually consists of an enclosing globe of opal or prismatic glass. The only possible disadvantage of a direct lighting unit that can cause any amount of concern, is that it may be so bright as to cause uncomfortable glare. This is especially true if the globe hangs low, say below 10 feet, or when it is installed in a large office where it may hang nearly in direct line of vision of the workers.

The lighting fixture providing indirect illumination (Fig. 3) directs practically all light to the ceiling to be reflected and diffused. Glare is almost entirely eliminated in this class of lighting and the resultant illumination is very comfortable. Consequently indirect lighting is growing more and more popular for offices and also is finding many applications in industrial drafting rooms because of the shadowless illumination it provides.

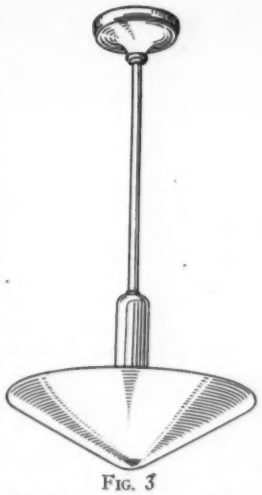

FIG. 3
Indirect type of lighting unit.

Indirect units usually consist of an open reflector of silvered glass or of dense pressed glass which is known as the "luminous bowl" type. In addition to the excellent illumination they offer, the "luminous bowl" units are pleasing in appearance, because being lumnious, they blend well with the ceiling.

The next step is to determine the spacing of outlets and size of lamp required to produce the desired illumination.

TABLE II

TYPICAL INDUSTRIAL REFLECTORS

RLM DOME REFLECTORS

Most widely used for providing general illumination in industrial interiors. To minimize glare use a White Bowl Lamp.

GLASSTEEL DIFFUSERS

Used where it is desirable to obtain a softer, better diffused light than that provided by the RLM Reflector.

HIGH MOUNTING REFLECTORS

Designed for use in industrial interiors where the mounting height is 20 ft. or over.

DEEP BOWL REFLECTORS

Their chief application is in places where a strong local light must be provided with more than ordinary shielding of the light source.

ANGLE REFLECTORS

Used for installations where lighting must be done from the side, or for the illumination of vertical surfaces.

VAPOR PROOF UNITS

Designed for use in industrial interiors to prevent inflammable, explosive or corrosive dusts, and vapors from reaching the lamp and socket. Should be fitted with an RLM Dome Reflector.

HOLOPHANE WIDE SPREAD UNIT

For lighting areas where the spacing is up to 6 times the mounting height such as warehouse, shipping platforms, etc.

NOTE: The above reflectors are of Porcelain Enameled Steel. Similar units are available in Prismatic Glass, and Chromium Plate.

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The spacing is governed largely by the permissible mounting height of the lighting unit. In general, it is more economical to use wide spacings and large lamps, because by so doing both installation and operating costs are reduced. With the usual types of equipment, such as RLM reflector, Glassteel diffuser, or white enclosing globes, the spacing should not exceed 1½ times the mounting height, if an even distribution of light is to be obtained.

When the area is divided into bays, the usual practice is to arrange the units symmetrically with respect to the bays. The proper size of lamp required to give a desired illumination level with the corresponding spacings and mounting heights are contained in Tables III and IV. The footcandle values given in these tables are for average conditions, that is, for fairly light colored ceiling and walls. For dark colored ceiling and walls or very dirty interiors, the footcandle intensities obtained will be lower by 15 to 25 per cent.

Importance of Wiring

In specifying electrical wiring for a new building or the revision of old wiring, a number of important considerations come to the fore.

The National Electrical Code regulations are intended primarily to insure protection against fire hazard. They do not necessarily provide a wire size sufficient to permit the most efficient use of lamps and equipment. Nor do they make provision for future increases of illumination. Therefore, to take them as a criterion of adequate capacity of a wiring system in the interest of low first cost, is not good economy in the long run.

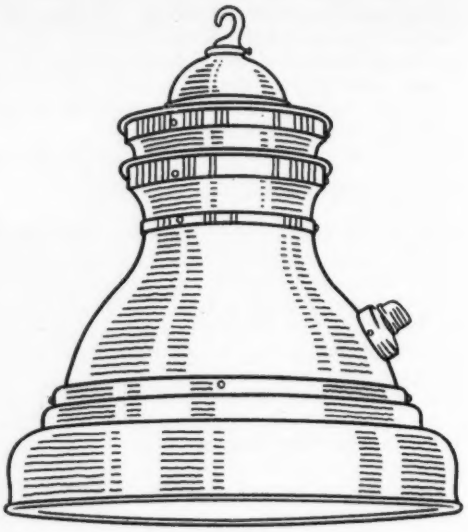

FIG. 4
Macbeth daylight unit.

TABLE III

Outlet Spacing and Lamp Size for Industrial Interiors

RLM Reflector

Glassteel Diffuser

Distance from underside of reflector to floor to be not less than (Feet)	Outlet spacing not to exceed (Feet)	Area per outlet adequately lighted (Sq. Ft.)	Average Foot-Candles					Average Foot-Candles			
			100 Watt	150 Watt	200 Watt	300 Watt	500 Watt	150 Watt	200 Watt	300 Watt	500 Watt
7½	7¾x 7¾	55—65	6—8	11—15	16—21	25—34	45—60	10—13	14—18	22—29	40—50
8½	8½x 8½	65—75	6—7	10—13	13—18	21—29	38—50	8—11	11—15	18—24	32—40
8½	9 x 9	75—85	5—6	8—11	12—15	19—24	34—45	8—10	10—13	16—21	29—38
9	9½x 9½	85—95	4—5	8—10	11—14	18—22	32—40	6—8	9—12	14—19	25—35
9½	10 x10	95—110	3.5—4.0	6—8	10—12	16—21	29—36	5—7	8—11	13—18	23—32
10	11 x11	110—125	3.5—4.0	6—7	10—12	16—21	25—32	5—6	7—9	11—15	20—27
10½	11½x11½	125—145	3.0—3.5	5—6	7—9	12—15	22—27	4—5	6—8	10—13	18—23
11½	12½x12½	145—170	2.5—3.0	4—5	6—7	10—13	18—23	3—4	5—6	9—12	16—21
11½	13½x13½	170—200	2.0—3.0	3.5—4.0	5—6	8—11	16—20	3—4	4—5	7—10	13—18
12½	14¾x14¾	200—230	2.0—2.5	3.0—3.5	4.5—5.5	7—10	13—17	3.0—3.5	3.5—4.0	6.5—8.0	11—15
13	15½x15½	230—260	.....	2.5—3.0	4.0—4.5	6—8	12—15	2.5—3.0	3—4	6—7	10—13
13½	16¾x16¾	260—300	.....	2.0—2.5	3.5—4.0	6—7	10—13	2.0—2.5	3.0—3.5	5—6	9—12
14¾	18 x18	300—340	.....	.....	3.0—3.5	5—6	9—12	.....	2.5—3.0	4—5	8—10
15½	19 x19	340—390	.....	.....	2.5—3.0	4—5	7—10	.....	2.0—2.5	3.5—4.0	7—9
16½	20½x20½	390—440	.....	.....	2.0—2.5	3.5—4.0	7—9	.....	.....	3—4	6—8
17	21¾x21¾	440 --500	.....	.....	.....	3.0—3.5	6—8	.....	.....	2.5—3.5	5—6

TABLE IV

Outlet Spacing and Lamp Size for Office Interiors

Enclosing Globe (Direct)

Luminous Bowl (Indirect)

Distance from underside of reflector to floor to be not less than (Feet)	Outlet spacing not to exceed (Feet)	Area per outlet adequately lighted (Sq. Ft.)	Average Foot-Candles				Distance from ceiling to floor to be not less than (Feet)	Average Foot-Candles			
			150 Watt	200 Watt	300 Watt	500 Watt		200 Watt	300 Watt	500 Watt	1000 Watt
7½	7¾x 7¾	55—65	7—10	11—15	18—24	32—45	7	8—13	14—22	25—40	50—80
8½	8½x 8½	65—75	6—9	9—13	14—21	25—38	7	7—11	12—19	22—34	45—70
8½	9 x 9	75—85	5—8	8—11	13—18	23—32	7	6—8	10—16	18—29	37—60
9	9½x 9½	85—95	.....	7—9	11—17	20—30	7	5—8	9—14	16—25	33—50
9½	10 x10	95—110	.....	6—8	9—15	16—27	10	.....	8—12	15—23	31—45
10	11 x11	110—125	.....	.....	8—13	14—23	10	.....	7—11	13—20	26—40
10½	11½x11½	125—145	.....	.....	7—11	13—20	10	.....	6—9	11—17	23—35
11½	12½x12½	145—170	.....	.....	6—9	11—17	10	.....	5—8	9—15	18—30
11½	13½x13½	170—200	.....	.....	5—8	9—14	12	.....	.....	8—12	16—24
12½	14¾x14¾	200—230	.....	.....	.....	8—12	12	.....	.....	7—10	14—20
13	15½x15½	230—260	.....	.....	.....	7—10	12	.....	.....	6—9	12—18
13½	16¾x16¾	260—300	.....	.....	.....	6—9	12	.....	.....	5—8	12—16
14½	18 x18	300—340	.....	.....	.....	5—8	12	.....	.....	.....	10—14

Wiring should provide for economical distribution of electrical energy. Electrical wiring of inadequate size introduces a source of energy loss between the meter and the outlet, and at the same time causes a reduction in the voltage at the lamp socket, so that lamps (unless specially ordered for lower voltage) are operated at a voltage below that for which they were designed.

Reduced voltage means that the efficiency of light generation is lower and the overall cost of light higher than when the lamps are operated at rated voltage. Wiring should be of sufficient capacity to provide for future requirements, as the trend of lighting intensities is ever upward.

Recommended lighting practice, and the appreciation on the part of factory owners and managers for the value of good lighting has a distinct forward trend. The smallest wire that should be used is No. 12 and in an installation with runs of from 50 to 100 feet, No. 10 wire is the smallest that should be used, while No. 12 may be used between outlets. Runs exceeding 100 feet from panelboard to the first outlet should be avoided either by the addition or by the relocation of panelboards. Where such runs cannot be avoided, the lamp load should be limited to 600 watts for each branch circuit.

Maintaining the Level of Illumination

The proper and adequate maintenance of equipment is tantamount to any other factor in providing good natural and artificial lighting. Systems which are adequate when first installed will soon deteriorate unless properly maintained.

Regular and definite systems of maintenance should be installed so as to insure that skylights, windows, lamps, and accessories are at all times kept glean, properly adjusted and in good repair. Means should be provided for easy access to all lighting units by the maintenance man.

Walls and ceilings should be repainted at regular intervals, particularly where, as in indirect systems of lighting, a large part of the illumination comes from the ceiling. It should be kept in mind that the illumination requirements, given in the accompanying tables, apply to the lighting equipment as maintained under average operating conditions and not merely when new and clean.

In the final analysis, the lighting system, though it does not perform any concrete task in the manufacturing procedure, is just as essential and should command the same care and attention as does moving machinery. Unless new motors are oiled and greased regularly in the pulp and paper mill and kept in constant repair, they deteriorate rapidly and too soon fall below their rightful economic value as based on original investment. Exactly the same thing will happen to your lighting system if it does not receive regular maintenance and replacement of burned out lamps.

Standardization of Materials Purchasing Specifications*

By A. E. H. Fair[1]

Abstract

A general outline of the progress made and desired relative to establishing specifications for such materials as wood, pulp, alum, sizes, felts, wires, coal and lubricants.

The trend toward the adoption of specifications by paper buyers, with the continued development of new uses for paper, has been inevitable. Due to the exacting demands which are made in some cases, these specifications have been essential, not only from the purchasers point of view, but for the protection of the paper manufacturer. Frequently these specifications contain items which are not essential and do not include others which are important. This indicates lack of study or need of closer cooperation between the buyer and seller. However, if the paper maker is familiar with the use to which the paper is to be put he can meet the customers' requirements, knowing the relative importance of the existing specifications.

The manufacturer of pulp and paper involves numerous variables. The purpose of technical control is to eliminate as many as possible of these variables, or at least to minimize the factors which tend to produce lack of uniformity in the product, whether it be pulp or paper. Naturally if we hope to control the product it is essential that the materials which enter into the process either directly or indirectly should not vary beyond certain limits.

Purchases for the pulp and paper industry take in a vast scope, including innumerable materials from many sources. These can be classified however, under two general headings: (1) Materials entering directly into the manufacture of pulp and paper, upon which both the quality and the cost of the product depend, and (2) materials and equipment entering indirectly into the manufacture of the product, affecting to some extent the quality and influencing definitely the cost. Under the latter heading come process materials such as clothing, lubricants, fuel, etc. Some of these materials are consumed in the process of manufacture but do not become part of the finished product. All equipment used to manufacture pulp and paper may also be included in this classification.

Materials Purchased for Direct Use in the Product

Dealing first with materials which enter directly into the making of pulp and paper, it is surprising that we have few definite specifications covering these. The most important raw material used in the industry is the source of fibre. This, in most cases, is wood. It is well known that many varieties of wood can be used to make the various grades of pulp. Woods differ greatly in characteristics. Each species of wood will also differ with the location and climate where it grows. Much is known of the influence of moisture content, age, etc., on the working qualities of wood. Treatment must be adjusted accordingly. The average pulpwood contract contains clauses covering the important variables. However, it is difficult to adopt standard specifications for pulpwood which will apply to the manufacture of any given type of pulp. General pulpwood specifications could not be formulated to apply to the whole industry.

It does seem feasible to adopt standard specifications

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for the majority of the materials used in chemical wood pulp manufacture. In fact, we may assume that standard specifications actually exist, although not officially recognized. An outstanding exception is limestone used for sulphite pulp making. Not only do limestone deposits vary considerably, but sulphite pulp mill practice is not by any means standard. Therefore, it is doubtful whether standard limestone specifications can be established.

Most paper mills have their own standard specifications for many of the raw materials which they use. Comparatively simple specifications suffice to ensure little variation in such materials as alum, china, clay and other substances of fixed composition. The important work of standardizing testing methods for such materials has been effective in making it possible for the individual mill to draw up its own specifications. A further development may come in the form of classification of such materials using as a basis the standard non-fibrous testing methods. If this can be done, it should be of inestimable value to paper mill operators.

The basic raw material of paper is fiber. Uniformity of raw material is essential to the making of a standard product, by a standard process. For years there have been specifications covering various grades of rags. By means of controlled cooking, a given grade of rags will yield a uniform pulp. However, there exists a wide variation in all kinds of wood pulp, including mechanical and chemical pulps. This is particularly evident in the better grades of chemical pulp, where such characteristics as color, beating qualities, initial and final strength are important.

The most commonly used fiber in medium and high-grade papers is sulphite pulp. It is certainly one of the most important materials with which we have to deal. It is probably the least standardized of any of the materials which enter into the process. Well operated sulphite pulp mills can control their product sufficiently closely to permit the paper maker to depend upon certain definite results if he treats the pulp in a standard manner. He uses one grade of pulp for one characteristic and a different grade for some other effect in the sheet. If the pulp does not vary he is able to duplicate his results without difficulty. If care is taken to test each lot of pulp as it arrives at the mill, and if mill standards have been established for each grade of pulp, he is able to use the tests to dajust his furnish and treatment thereby avoiding variations in the quality of his paper. In other words, the conditions existing today are that the modern mill by means of laboratory tests, which have been in most cases standardized in the industry, is able to made adjustments in a standard fiber furnish and standard practices to produce a uniform paper.

Before standard pulp specifications can be suggested there must first be accepted standard pulp testing methods. An endeavor is now being made by the Pulp Specifications Committee to establish standard sulphite pulps for different uses, so that a mill can test and classify each pulp by its own methods. It is to be hoped that this may be followed by the establishment of a standard testing procedure for all kinds of pulp. If so, better uniformity and higher quality in all pulps can be expected. As a result economies may be realized. Process control should also be facilitated. Of equal importance, sheet design should become more practical.

Materials Indirectly Used

Specifications for equipment and materials other than those which enter directly into the manufacture of paper, can not be considered in detail, but some of the more important should be mentioned. It is the general opinion of mill operators that much can be accomplished to facilitate the purchasing of such materials and that economies can be effected in so doing.

With the exception of clothing costs, one of the largest items of upkeep in a mill is the replacement of parts destroyed by erosion and corrosion. This applies particularly to the sulphite pulp mills where acid conditions prevail. It has been necessary to replace regularly, acid valves, pumps, blowpit bottoms, etc. Vast strides have been made lately in developing acid resisting alloys for sulphite mills. Various makes of stainless steel have been adopted by many mills, and some saving has been realized as a result. This development has been closely followed by the technical associations. The resulting exchange of information has been valuable to the industry as a whole. It is likely that the most satisfactory alloy will soon be determined and that it can be generally adopted. Specifications will be automatically established when the practical tests which are now being conducted have been completed.

An opinion was requested from a number of mill managers regarding the standardization of materials purchasing specifications. All agreed that a more general standardization would be beneficial. It was also interesting to note that while each dealt with the question generally, special mention was made of lubricants, fuel, and casing lumber because the purchasing specifications for each of these important factors in the cost of the product.

Much study has been made of lubricants and while each presented a problem at the time. While none of these matrials affects directly the quality of pulp or paper, all are mill has its own lubrication problem, there is little doubt that certain types of oils or greases are best suited to individual conditions. Therefore, if specifications for lubricants could be established, they should be very valuable to the industry. Operating temperatures, surface speed, moisture conditions would, of course, be important factors in determining the ideal lubricant in each case. With the adoption of anti-friction bearings has come the stipulation by the machinery manufacturer that only certain types of grease or oil must be used. This has been helpful to the mill operator but there still exists much scope for economy in lubrication which can be accomplished by using information already available, to formulate suitable specifications.

Detailed study of fuels has already been made, Standard methods of determining heat values, etc., have been adopted. Practically every mill is buying fuel on its workability and heat value. There is such a wide variation in fuels and there are so many factors entering into their use that it must be left to each mill to adopt its own specifications. This applies also to the majority of similar materials. The quality and price of all such materials directly influence the cost of the product of the pulp and paper mill but it would seem advisable first to standardize the specifications for raw materials after which the others might be considered in order of importance.

There is some difference of opinion as to whether any attempt should be made to standardize purchasing specifications for any of the materials used in the industry. Every mill can make its own tests as a means of specifying materials and controlling its product. It may be argued that standardization can only apply to a limited extent and therefore its value is doubtful. However, our goal is the manufacture of a uniform product of the highest quality at the lowest cost. Should we not do everything possible to standardize our materials as a means to this end?

How Management May Use the New Vocational Training Bulletin*

By Harold G. Noyes[1]

Abstract

Suggested methods and procedures to be followed in using the recent publication of the Education Committee in operating training programs in the Pulp and Paper Industry.

The major project of the Education Committee during the past two years has been the carrying on of a systematic study of operating jobs in the industry with recommendations for training programs to meet needs of the industry. The Federal Board for Vocational Education, Washington, D. C., worked with the committee and performed a major portion of the task of making and compiling the job analyses incident to the suggestions contained in the report on the Organization and Operation of Training Programs for the industry. The report of the committee is contained in Bulletin No. 168, Trade and Industrial Series No. 49, "Vocational Training for the Pulp and Paper Industry" issued by the Federal Board for Vocational Education. This report is on sale by the Superintendent of Documents, Government Printing Office. The price of the bulletin is 20 cents. (Every T.A.P.P.I. member should have a copy.)

Steps and procedures of the Education Committee leading up to the publication of the report have been discussed in previous T.A.P.P.I. meetings. Accounts of this program may be found in the publications of the association.

Acknowledgements should be made to Messrs. J. C. Wright, Frank Cushman, R. V. Billington, N. B. Giles and C. E. Rakestraw of the staff of the Federal Board for Vocational Education for their efforts in securing, classifying and assembling material for the report. The greater part of the work was done by Mr. N. B. Giles.

The purpose of this paper is to interpret for management the features of the data in the bulletin and offer suggestions as to practical methods of using the material in setting up or readjusting a mill training program.

The bulletin is divided into three parts:

Part I—"Process of Manufacture of Pulp and Paper; Development of Training Problems Involved."

The purpose of this section is to serve the dual purpose of giving a brief summary of some of the recent technical trends and developments within the industry and list types of training for the pulp and paper industry in view of the effect of such developments on processes and operating jobs.

The six major phases of training problems found to be essential in the industry are:

1. Breaking in new men.
2. Breaking in transfers.
3. Improving regular workers and keeping them abreast of technical developments.
4. Upgrading personnel.
5. Improving superintendents and foremen.
6. Preparing selected experienced men to become instructors and conference leaders.

Each of these are grouped as to types and will be dealt with later in this paper.

Part II of the bulletin contains an analysis of jobs in the pulp and paper industry. This analysis is by no means complete but it represents a composite analysis of the jobs commonly found in the pulp and paper mills in the country.

To make these analyses as comprehensive and exact as possible, the analyses were made in mills in the various parts of the country and checked in other mills before being accepted as representing a particular job or operation.

Part III of the bulletin contains specific procedures and methods for organizing, developing and operating training programs to meet the needs of each of the types of training methods above. In assisting management to arrange suitable mill training programs, this section of the bulletin is of considerable value.

The charts on pages 184, 185, 186 and 187 of the Bulletin give the information necessary for the types of training of employees in any mill.

Special attention is called to the list of instructional units found on page 183. These are to be used in cases where organized instruction is needed.

The remainder of the bulletin is devoted to a series of outlines intended to be used as guides by persons who are to organize and offer the actual instruction.

Training programs for the industry may be set up either as private plant projects or in connection with the state or local public school system. In the latter case the classes must be at all times under public supervision and control.

In this paper both situations (Cases I and II) will be assumed and procedure outlined for the purpose of assisting management in whichever program it may select for its own organization. Case I will be called "Private Plant Training Projects"—Case II will be called "Public Training Program for the Pulp and Paper Industry."

CASE I

Let us assume that the management of a company decides to start a private plant training program. Using the report (bulletin) the following steps may be followed:

1. Check all payroll jobs and type jobs in the plant against the analyses covered in Part II (See flow sheet opposite page 191 or list of jobs on pages 184-187. Also Job Analyses, pages 20-177).

In making this check list of payroll jobs in the local plant it should be kept in mind that identical jobs are called by different names in the various sections of the country. A job analyzed in the bulletin under a certain name may be found in a local mill under a different payroll designation.

2. Using same procedure, analyze jobs found in local mill which are not listed in Part II.

This procedure requires a more skillful technique than is suspected by the average mill man not experienced in this work. In case no one is available in the local plant, the suggestion is made that some one from the state or Federal Board of Vocational Education be called in to assist or train someone from the mill staff. Facts must be ascertained and not the ideas or theories of some operator. Failure to make these analyses accurately will make for a greater factor of error (inefficiency) in the training program when it is established.

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3. Determine which of the three types of project are necessary. (See pages 15-16, also pages 181-182.)

The probability is that all three types will be found necessary. Such conclusion should rest solely upon the evidence presented by the data secured after an evaluation made by persons competent to draw proper conclusions.

Careful considerations of the suggestions contained in the paragraph "Ways of Training Personnel" is essential. (Pages 181-182.)

4. Determine units or subjects to be taught (see page 183) if classes for organized instruction are to be formed. Suggestive outlines are formed on pages 187-233. The local, state or Federal educational school agencies can often assist in organizing and offering this type of program.

In case the first type is found to be necessary, attention of management is specifically called to the charts, column 1, on pages 184-187. See also explanations on page 181. A careful study on the part of the person or persons who are to be charged with the responsibility for this type of instruction is called to the sample instructional job on pages 233-235, Part III. Public school authorities can be of assistance to mill management in this type of training.

In case the second type is found to be necessary, attention of management is specifically called to the charts, Column 2, on pages 181-182. A careful study on the part of the person or persons who are to be charged with the responsibility for this type of instruction is called to the instructional job on pages 235-237, Part II. Public school authorities can be of assistance to mill management in this type of teaching. Management, however, must decide upon the time when such instruction should be given.

When organized instruction in short trade extension units is to be offered, Column 3, pages 184-187 will determine the workers who can profit by enrolling in such courses. In case a mill has jobs other than listed on pages 184-187, the same procedure may be followed in determining ways of training and enrollment in organized classes.

5. Determine *who* are to serve as instructors. (See notes at head of columns, pages 184-187.)

See foot note at bottom of page 21. Within the mill, managers, superintendents, foremen, competent workers, chemists, etc., generally should be chosen whenever training jobs of type one and two arise. When classes for offering organized instruction are conducted, an experienced man who has been trained to teach and who may have no official connection with the company should be chosen. In some states such instruction is furnished to the industry by the public school system, state or local, or both.

6. Train instructor in "teaching methods." (See pages 233-245.)

In cases where the foreman or an experienced workman is to instruct new men or transfers, or teach regular workers new operating methods and procedures, it is essential that they master the fundamentals of analysis and know the technique of how to give instruction to workers on the job.

The federal, state, and local school authorities can generally do this better than the average mill organization.

7. Where organized class instruction is necessary, organize classes by units and enroll according to column 3, pages 184-187.

8. Prepare constantly up-to-date functioning lession material. (See pages 187-233.)

This can generally be done best by coordinated activity on the part of the personnel department, superintendents, foremen and technical men working with the instructor.

9. Follow-up and check. Some one designated by the management should follow up, check, and as far as possible, determine the efficiency of the projects included in the mill training program to ascertain its effect upon operation, morale and efficiency of the working force of the plant. Unless such programs render more effective methods, operations and procedures and have a salutory effect upon the quality and quantity of production they have no place in mill organizations.

Properly instituted, conducted and supervised, they will effect directly operating costs.

The assumption is made, as in Case I, except that such a program will be carried on as a part of the trade and industrial program of the public schools.

In some companies it may be desirable to set up a training program using the public school system for the work. In doing this it is possible to secure the aid and assistance of local, state and federal agencies especially established by law for such service. In such cases contact should be made with local, state and federal departments of education or vocational education as the case may be. At present several states are performing this service for the industry.

Mr. Frank Cushman, Chief of the Trade and Industrial Education Service, Federal Board for Vocational Education, U. S. Department of Education, Interior Department, Washington, D. C., is the person to contact nationally. Lists of state officials are available from R. G. Macdonald, Secretary, T.A.P.P.I. or from the chairman of the Education Committee. Local directors of Vocational Education or Local Superintendents of Schools may be contacted in cities where mills are located.

Set-ups for procedures on the part of the educational departments vary in the different states in accordance with the state plan for Vocational Education. However, it is recognized by all states that trade and industrial education on various levels under public supervision and control is a public responsibility and most of them have standard procedures for rendering such service to industry. Plans are flexible enough to serve the interests of the workers in the industry in whatever state or locality it may be located.

The levels generally attempted by public schools are:

1. Pre-employment training.
2. Apprenticeship.
3. Trade extension.
4. Instructor training.

Having determined training problems within its own organization, management should decide, what, if any, of the projects can be conducted most effectively by or in cooperation with the public school authorities. Contact with the proper persons should then be made, after careful cooperative study on the part of both organized programs can be put into operation. It should not be expected that the school can do this work unassisted. Continued assistance and cooperation on the part of mill management is necessary and should be given freely.

No attempt is made in this paper to go into detail as to methods and procedures for carrying out the type of program which may be offered in Cas II. Contact with school officials and a careful study of the bulletin referred to in this paper will reveal the proper procedure.

It is hoped by those who assisted in the preparation of the bulletin, that this contribution of the Education Committee of T.A.P.P.I. may be of real service to the membership of the Technical Association and to pulp and paper mill men everywhere.

The Voith Pneumatic Stock Conveyor*

By Christopher C. Crusius[1]

The handling of pulp and paper stock in slush as well as in semi-moist condition always has been a vital problem in any pulp or paper mill and the possibilities of saving in many ways by introducing efficient methods are quite frequently underestimated.

The tendencies of the paper mills recently toward the handling of stock at higher consistencies for more economical results, have opened new problems for the pump designing engineer primarily, to build centrifugal pumps which will deliver, without fail, stock of definite characteristics in large quantities, over long distance, and economically.

When the consistency of the stock, however, rises above 7 per cent, considerable difficulty is experienced and the efficiency of operation becomes rather low. With this condition prevailing, different methods, such as screw conveyors and belt trough conveyors have to be employed, to meet the new requirements. Certain disadvantages, characteristic of this type of equipment are well known. In the first place the necessity of adhering to straight line design with separate driving units at the junction points, calls for rather high initial cost of the equipment. Secondly, there is certain wear and tear which is unavoidable and which causes excessive maintenance expenses making this type of equipment for certain installations undesirable from the standpoint of economy. For overhead travel substantial supporting structures furthermore have to be provided which naturally will also add to the cost of the installation. There is also a certain limitation to the capacity of equipment of this type traceable to the maximum obtainable safe speed of conveyor screws and belts. Unavoidable, furthermore, is the considerable loss in fibre stock at the transfer points of the belt conveyor, not to mention the fact that dust, dirt and foreign matter cannot be prevented from entering the conveyed material travelling in open troughs or belts.

Received Jan. 11, 1934.

* To be presented at the annual meeting of the Technical Association of the Pulp and Paper Industry, New York, N. Y., Feb. 19 to 22, 1934.

[1] Member TAPPI, engineer, J. M. Voith Company, Inc., New York, N. Y.

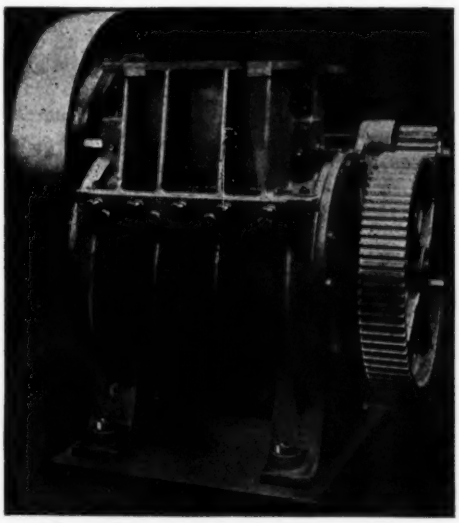

Fig. 1
Pulp Feeder.

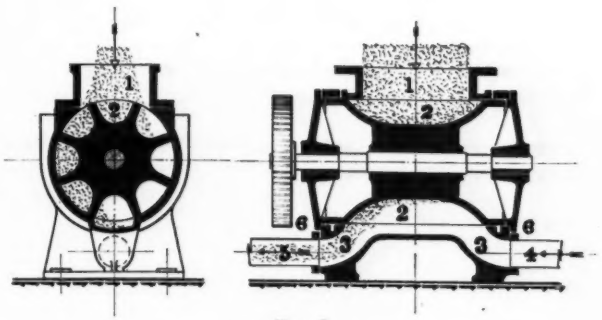

Fig. 2
Diagram of Pulp Feeder.

For stock consistencies of 18-20 per cent and upward, a new type of conveying system has been developed, utilizing compressed air, small pipelines and a high speed of travel. The efficiency is very high, the economy of operation exceedingly favorable and all disadvantages cited above are avoided. The entire system is sealed from receiving to discharge end, the pipelines are small and of light weight material, calling for corresponding light supporting structures. Most of all the space required by both the feeding equipment and stock delivery pipe is small and can conveniently be accommodated in limited conditions of space.

Pulp or paperstock suitable for pneumatic conveying should have a consistency of at least 18 per cent A. D. although operation has been maintained satisfactorily slightly below this figure. Any quality stock; Ground wood, sulphite, sulphate, soda pulp or all kinds of paper stock are acceptable and can be conveyed over distances up to 3000 feet. There are no limitations in regard to capacity per installation as either single or a combination of multiple units can be provided.

The preparation of the stock fiber depends entirely upon the particular character of the installation. When machine or cutter room broke or air-dry pulp are to be handled, a shredder for dry or a pulper for semi-moist conveying is recommended. When, on the other hand, slush stock of about 3 to 6 per cent consistency is available, a screw press will satisfactorily concentrate it to 25 or 30 per cent which is most desirable for conveying. (See Figs. 1 and 2.)

Thus properly prepared the stock enters the pulp feeder which consists of a rotary drum equipped with a number of pockets or compartments on its circumference into which the stock is evenly supplied. As soon as each pocket during rotation comes in line with the airduct at the lower end of the feeder, the air current forces the pulp out of it and into the stock delivery pipeline. Stock supply of uniform disintegration and of even distribution across the face of the rotary drum is accomplished by means of a disintegrator with fluted roll mounted on top of the feed hopper.

Compressors, furnishing the proper quantity of air at a specified amount of pressure, may be of the rotary or piston type. Should the latter type be selected, a receiver-tank between compressor and pulp feeder is recommended,

in order to eliminate pulsation. The size of the compressor depends upon the desired capacity of the conveying system and the total distance over which the stock has to be blown.

The delivery pipe line should consist of seamless tubing of steel or copper joined in such a way that an entirely smooth and continuous passage is provided. By means of easy bends and long radius elbows all excessive friction and pipe resistance are eliminated. Due to the use of compressed warm air, pipelines located in the open do not have to be insulated for protection against severe cold weather.

For conveying stock to various parts of the mill necessitating the installation of several trunklines, stock switches are provided which can be quickly opened and closed thus directing the flow of stock one way or another. For the purpose of conveying the stock to the various stations of demand stock valves are installed in the trunkline which, too, can as quickly and conveniently be manipulated as the switches. It is very evident, therefore, that rather elaborate systems of stock distribution can be developed covering very extended areas. Even remote sections of the mill can be supplied from one central distributing station by simply extending the stock delivery pipeline and providing proper switch and valve equipment.

Conveying pulp even over long distance has proven its merits, and for more than six years one installation for instance has been in continuous commercial operation, handling 45 tons of ground wood pulp over a straight line distance of 2300 feet. The pipeline used in this particular case consists of seamless drawn steel tubing of 4 and 5 inches inside. Diameter. Most of the way the pipeline is located in the open, noninsulated, and supported by light structural steel masts. The ground wood pulp in this installation, coming from the screen room, passes through deckers first and is brought up to a consistency of about 5 per cent air-dry. From an intermediate storage-chest it is then supplied to screw presses which concentrate it to a consistency of about 33 per cent. In this condition it is taken to the pulp feeder, which forces it into the compressed air current and it is conveyed to the paper mill 2300 feet away. On arrival, pulp and air are blown into a curtain of water, causing immediate absorption of the fiber stock, preparatory to an intensive mixing in the propeller chest below. Several of these mixing units are located in various parts of the mill and can all be supplied from the same trunkline by properly setting stock-switch and valves. The switch change can be made at a moment's notice without shutting down the central supply unit. The merits and convenience of pneumatic conveying in this particular installation are not the only advantages. Due to the high concentration of the pulp handled, practically all white water is reclaimed in the pulp mill where it is needed and no white water reclaiming equipment had to be provided in the paper mill to take care of the surplus. It is very apparent, therefore, that a considerable saving in the initial cost of the equipment was established and the amount of operating power for the entire conveying system was favorably reduced.

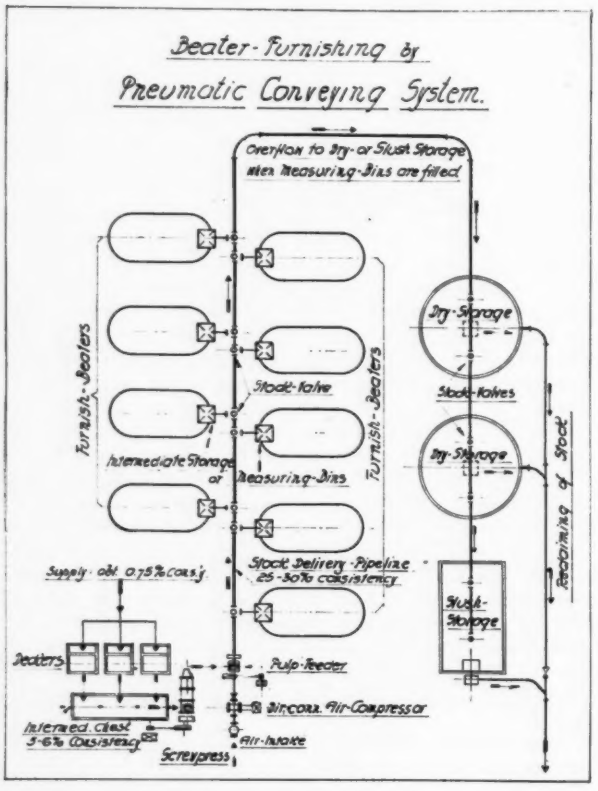

FIG. 3

Furnishing beaters, Fig. 3, by either blowing stock directly under the beaterroll or into an intermediate bin of known capacity corresponding to a desired beater charge of fiber stock. By keeping this bin filled, the properly prepared pulp is always available and can be furnished quickly upon demand. An adjustable sliding gate at the lower end of the bin will permit a gradual discharge and provide even and uniform feeding of the stock to the beaterroll.

Conveying of paper stock or pulp from one central receiving station to a number of beaters or storage chests by eliminating trucking and loss of fiber in transferring stock from one conveyance to another. As the entire conveying system is cleaned automatically as soon as the stock supply ceases, one system can be used for conveying materials of a different quality.

The economy of pneumatic stock conveying compared with handling pulp in semi-moist condition might also be briefly mentioned at this time. The first cost of equipment and installation, particularly when screw- or belt conveyors are contemplated, is unquestionably in favor of the pneumatic conveying system. The cost of operation, that is the power consumed by compressor and pulp feeder is somewhat higher than required by conveyor-drives. The maintenance and repair item, on the other hand, for belt and screw conveyors is very considerable, whereas it is negligible as far as the pneumatic system is concerned. The superior quality of the fiber when received at the point of destination, free of dust, dirt and foreign matter, combined with the numerous advantages listed above will, however, fully compensate for possible slightly higher

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First Natl. Bank, of Boston, Kwansai Maru, Osaka, 50 bls. rags; Darmstadt Scott & Courtney, Artigas, Manchester, 34 bls. new cuttings; E. Butterworth & Co., Inc., by same, 13 bls. new cuttings; Castle & Overton, Inc., Cold Harbor, Dundee, 131 bls. paper stock; ———, Amer. Merchant, London, 35 bls. rags; E. J. Keller Co., Inc., Black Hawk, ———, 105 bls. bagging; Darmstadt Scott & Courtney, Black Hawk, Antwerp, 117 bls. jute waste; O'Neill Bros., Liberty, Havre, 24 bls. cotton waste; E. J. Keller Co., Inc., Liberty, ———, 80 bls. rags.

OLD ROPE

Chase National Bank, Boston City, Bristol, 100 coils; N. E. Berzen, Magallanes, Vigo, 279 coils.

CHINA CLAY

———, Boston City, Bristol, 125 casks.

WOOD PULP

Perkins Goodwin & Co., Ryufuku Maru, Hamburg, 700 bls. wood pulp, 107 tons; Castle & Overton, Inc., Blommersdyk, Rotterdam, 1,255 bls. wood pulp; Bulkley Dunton & Co., Ditmar Koel, ———, 6,250 bls. wood pulp, 1,269 tons; Johaneson Wales & Sparre, Inc., Ditmar Koel, Sundsvall, 7,554 bls. sulphite, 1,327 tons; Johaneson Wales & Sparre, Inc., Ditmar Koel, Sundsvall, 2,750 bls. sulphate, 456 tons; Johaneson Wales & Sparre, Inc., Ditmar Koel, Sundsvall, 1,250 bls. chemical pulp, 253 tons; Mead Sales Corp., Ditmar Koel, Sundsvall, 1,500 bls. chemical pulp, 304 tons; ———, Ditmar Koel, Hernosand, 2,940 bls. sulphite, 490 tons; Ditmar Koel, ———, Hernosand, 960 bls. sulphate, 160 tons; Lagerloef Trading Co., Scanstates, Helsingfors, 2,149 bls. sulphite, 374 tons; Castle & Overton, Inc., Scanstates, Helsingfors, 128 bls. sulphite, 25 tons; M. Sone, Pr. Harding, Hamburg, 166 bls. wood pulp.

WOOD PULP BOARDS

Lagerloef Trading Co., Scanstates, Helsingfors, 68 bls., 50 rolls, 20 tons.

ALBANY IMPORTS

WEEK ENDING FEBRUARY 3, 1934

Perkins Goodwin & Co., Ditmar Koel, Sundsvall, 3,276 bls. sulphate, 554 tons; Perkins Goodwin & Co., Ditmar Koel, Munksund, 9,000 bls. sulphate, 1,500 tons; Central Hanover Bank Trust Co., Ditmar Koel, Hernosand, 3,000 bls. sulphate, 500 tons.

BOSTON IMPORTS

WEEK ENDING FEBRUARY 3, 1934

Brown Bros. Harriman & Co., Amer. Merchant, London, 155 coils old rope; ———, Carinthia, Liverpool, 95 bls.

rags; Oxford University Press, Carinthia, Liverpool, 4 cs. printing paper; ———, Carinthia, Liverpool, 508 bags hide cuttings; G. F. Malcolm, Inc., Carinthia, Liverpool, 28 cs. tissue paper; F. S. Webster Co., Inc., Carinthia, Liverpool, 4 cs. tissue paper; Andrews Paper Co., Black Hawk, Antwerp, 2 cs. wrapping paper; W. Steck & Co., Black Hawk, Antwerp, 124 bls. flax waste; E. J. Keller Co., Inc., Augsburg, ———, 336 bls. wood pulp; Bulkley Dunton & Co., Bockenheim, ———, 8,175 bls. wood pulp; Bulkley Dunton & Co., Luossa, ———, 4,200 bls. wood pulp.

PORTLAND IMPORTS

WEEK ENDING FEBRUARY 3, 1934

Bulkley Dunton & Co., Bockenheim, 3,500 bls. wood pulp.

PHILADELPHIA IMPORTS

WEEK ENDING FEBRUARY 3, 1934

———, Kwansai Maru, Shanghai, 100 bls. card waste; ———, Boston City, Bristol, 100 bls. rags; Gilman Paper Co., Markland, Liverpool, N. S., 2,050 rolls newsprint; E. J. Keller Co., Inc., Black Hawk ———, 369 lbs. rags; Lagerloef Trading Co., Scanstates, Helsingfors, 2,740 bls. sulphite, 497 tons; Lagerloef Trading Co., Scanstates Helsingfors, 332 bls. wood pulp boards, 50 tons; J. W. Hampton Jr. & Co., Inc., Scanstates Helsingsfors, 215 rolls newsprint; Jay Madden Corp; Scanstates, Helsingfors, 157 bls newsprint; E. J. Keller Co., Inc., Liberty ———, 167 bls. rags; Castle & Overton, Inc., Liberty, Havre, 129 bls. rags; Castle & Overton, Inc., Liberty, Dunkirk, 60 bls. rags; E. J. Keller Co., Inc., West Eldara ———, 522 bls. rags; M. Sone, Quaker City, Hamburg, 170 bls. wood pulp.

BALTIMORE IMPORTS

WEEK ENDING FEBRUARY 3, 1934

Congoleum Nairn Co., Exporter, Marseilles, 279 bls. rags; M. Sone, Grangesberg, Sundsvall, 1,500 bls. wood pulp; Bulkley Dunton & Co., City of Hamburg, ———, 500 bls. wood pulp.

WILMINGTON IMPORTS

WEEK ENDING FEBRUARY 3, 1934

Castle & Overton, Inc., Scanstates, Helsingfors, 5,829 bls. sulphite.

NEWPORT NEWS IMPORTS

WEEK ENDING FEBRUARY 3, 1934

Bulkley Dunton & Co., Simon von Utrecht, ———, 4,350 bls. wood pulp.

To Move to Rockefeller Center

American Cyanamid Company, 535 Fifth avenue, New York, has executed a lease with Rockefeller Center, Incorporated, covering about 120,000 square feet on the 57th, 58th, 59th, 60th and a part of the 61st floor in the new R. C. A. Building at 30 Rockefeller Plaza, New York. The lease is for a term of twenty years commencing March 1, 1934. It is expected that the new space will be occupied about April 1, 1934.

The move was necessitated by the need for more space by American Cyanamid Company to take care of its growing business and to provide for future expansion. As the company occupies at its present address about twenty-five floors, each having much less space, the new location, being all on five adjoining floors, will lend itself to the much more efficient conduct of the company's business.

American Cyanamid Company is a large producer of industrial and mining chemicals and fertilizer materials, and has plants and sales offices in many States. Among its subsidiaries which will have offices at 30 Rockefeller Plaza are the following: American Cyanamid and Chemical Corporation, American Cyanamid Sales Company, Amalgamated Phosphate Company, American Powder Company, Arizona Chemical Company, Beetleware Corporation, The Calco Chemical Company, Inc., Chemical Construction Corporation, Chemical Engineering Corporation, Fumigators Supply Company, Inc., General Explosives Corporation, A. Klipstein & Co., Inc., Maryland Chemical Company, Owl Fumigating Corporation, Rezyl Corporation, The Selden Company, Structural Gypsum Corporation, Synthetic Plastics Company, Inc.

NEW HOME OF AMERICAN CYANAMID AFTER APRIL 1

Tappi University of Maine Men to Meet

The annual University of Maine dinner held in conjunction with the annual meeting of the Technical Association of the Pulp and Paper Industry, will be held on Tuesday evening, February 20th at 6:30 P. M. at the Hotel Lexington, New York, N. Y.

Maine men planning to attend should notify C. H. Champion, R. T. Vanderbilt Company, 230 Park avenue, New York, N. Y.

Charges Against Crown Zellerbach

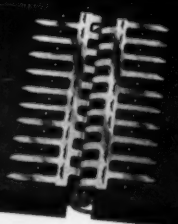
[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., February 8, 1934—The Crown Zellerbach Corporation, of San Francisco, Cal., is charged in a formal complaint issued today by the Federal Trade Commission with acquisition of capital stock in competing company, Crown Willamette, in violation of Section Seven of the Clayton Act. The case will be set for trial at an early date.

Acme Paper Co. Incorporated

Articles of incorporation have been filed with the Indiana secretary of state by the Acme Paper Company, Inc., of Indianapolis, formed to deal in paper products of all kinds. The corporation has an initial capital stock of 100 shares having no declared par value and the incorporators are Louis R. Rosen, Ralph Rosen and Samuel J. Mantel.

ALLIGATOR
STEEL BELT LACING



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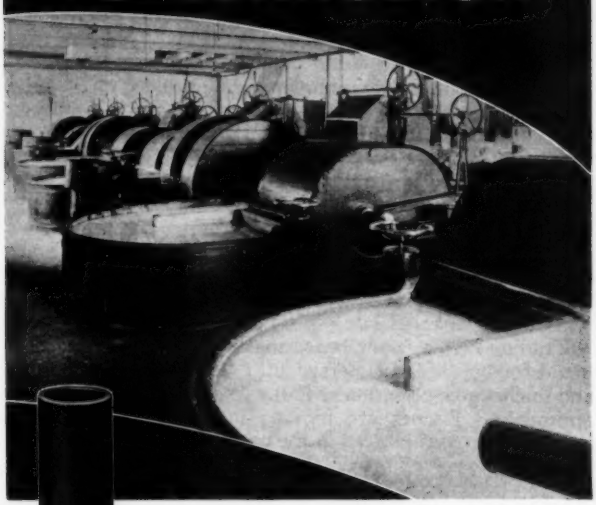

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New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, February 7, 1934.

Conditions in the local paper market are improving. Demand for the various standard grades of paper is slightly better. Inquiries for future account are fairly numerous. Sales forces of the leading paper organizations generally express optimism. Prices are holding to schedule, and reports of shading are infrequent.

The news print paper market is exhibiting a stronger undertone. Advertising volume in the leading newspapers continues to expand. Production in the United States, Canada and Newfoundland is well maintained. Stocks at the mills are not excessive. The price situation is more encouraging than of late.

Trading in the paper board market is fairly active. Demand for box board is persistent. Quotations remain steady and unchanged. Sentiment in the fine paper market is more optimistic. Tissues are moving in good volume. Some improvement was noticed in the coarse paper market. Kraft wrapping paper is firm.

Mechanical Pulp

The ground wood pulp market is moderately active. Production in this country and abroad is practically keyed to consumption and the statistical position of the industry is satisfactory. Quotations on both domestic and imported mechanical pulp are generally holding to previously quoted levels.

Chemical Pulp

Steadiness prevails in the chemical market. Demand for the various domestic and imported grades is light at present, although there are a number of inquiries around for future delivery, some of which should materialize into substantial orders. Prices are holding to schedule, in most instances.

Old Rope and Bagging

The old rope market is marking time. Demand for domestic and foreign old manila rope is mostly along routine lines. Small mixed rope is quiet. Old rope prices remain unchanged. The bagging market is displaying more strength. Scrap and gunny bagging are arousing more interest. Roofing grades are stronger.

Rags

More interest is being displayed by the paper mills in the domestic rag market. Demand for new cotton rags is picking up. No. 1 white shirt cuttings continue firm. Roofing grades are in better request. The imported rag market is showing improvement and prices on new and old foreign rags are higher.

Waste Paper

The paper stock market continues steady to firm. The higher grades are holding up well, especially book stock. Board mill demand for the lower grades is fairly active, and, with offerings limited, prices are well maintained. Due to heavy export demand, quotations on strictly over-issue news have advanced.

Twine

Business in the local twine market is moderately active. Demand for the various grades is mainly routine. With the approach of Easter, however, more lively trading is anticipated in the near future. Supplies are moving into consumption in good volume. Quotations are fairly steady for the time of year.

Indianapolis Demand Fairly Active

INDIANAPOLIS, Ind., February 5, 1934—The local paper market appears to be holding its own, most lines moving with regularity if not with briskness. Perhaps the trade expected too much business after inventory, for most of them are inclined to complain as to volume. However the volume is better generally than a year ago. While many contracts have been signed, there are a lot more that need signing before the trade feels things are shaping up. These holdouts are uncertain and until they make up their minds there is little to do but wait.

Confidence in the price situation seems universal among the paper trade members themselves. The effect of code provisions is most particularly noticed here in the coarse paper and paper bag trade where competition of a keen nature has been the rule for many months. None seemed to know just what prices were until an offer was made. This situation is being eliminated rapidly, much to the satisfaction of all.

The paper stock trade is drifting along about as it has been for two or three weeks. The trade seems able to hold the business to the higher levels it reached following inventory, but no further improvement is seen. High grade rags and paper seem most wanted, with the poorer stock going begging. At that the mill demand is not what it should be according to the local trade. Many of them are running on short hours and their demands are rather light.

Container factories and jobbers in this section are having a slight increase in demand. Business on the whole has been fair during the winter but since inventory it appears to show more life.

With the turn of the year the jobbers and manufacturers of summer specialties are beginning to take stock. Warehouse supplies of these specialties are very light and the quantities in the hands of dealers are known to be light. Dealers last year bought sparingly and the carryover was the smallest in years..

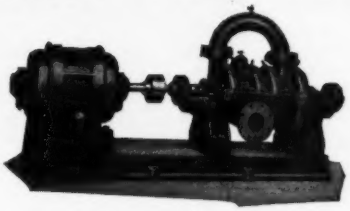
Mt. Carmel Strawboard Plant Resumes

INDIANAPOLIS, Ind., February 5—The strawboard plant at Mt. Carmel, Ill., near Vincennes, Ind., which has been closed down for some time, began operations last week. The program is for a five-day week with three shifts.

Modernize Your Pumping Service

with High Efficiency

Lawrence "Vortex" Pumps



Every pump in the Lawrence "VORTEX" line has been developed for high efficiency pumping service. Substantial savings in operating costs are assured through lower power consumption.

These pumps are recognized in pulp and paper mills and other industrial plants for outstanding performance and quiet, smooth, carefree operation.

The complete Lawrence "VORTEX" line includes pumps for various types of service. Write for details.

LAWRENCE PUMP & ENGINE CO.
P. O. BOX 70
LAWRENCE, MASS.

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Special Grades for Beater and Top Sizing

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Accurate
SIDE SEAM REGISTER
at 800′ per minute

USERS of the new S & W straight line tuber report seam variations held to less than 1/16 inch.

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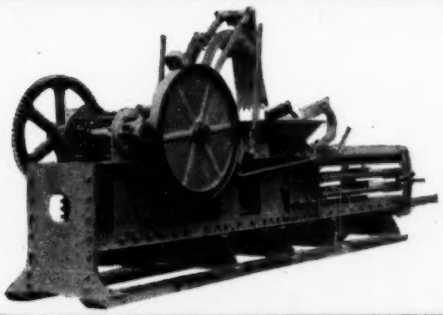
The SMITH & WINCHESTER MFG. Co.
SOUTH WINDHAM, CONNECTICUT



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THE OHIO CULTIVATOR CO., Bellevue, Ohio

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, February, 7, 1934.

BLANC FIXE.—The position of the blanc fixe market is practically unchanged. Prices are holding to schedule. The pulp is quoted at from $42.50 to $45.00 per ton, in bulk; while the powder is selling at from 3½ to ¾ cents per pound, in barrels, at works.

BLEACHING POWDER.—Some improvement was noticed in the bleaching powder market. The contract movement is well up to average. Prices are generally steady and unaltered. Bleaching powder is quoted at from $1.90 to $2.15 per 100 pounds, in drums, at works.

CASEIN.—The casein market continues firm. Domestic standard ground is quoted at 12 cents and finely ground at 12½ cents per pound. Argentine standard ground is selling at 15½ cents and finely ground at 16 cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—The caustic soda market is exhibiting a strong undertone. Prices remain unchanged. Solid caustic soda is quoted at from $2.60 to $3.10; while the flake and ground are selling at from $3.00 to $3.05 per 100 pounds, in large drums, at works.

CHINA CLAY.—Business in the china clay market is fairly active. The contract movement is normal. Imported china clay is quoted at from $13.50 to $21.00 per ton, ship side; while domestic paper-making clay is selling at from $5 to $12 per ton, at works.

CHLORINE. — The chlorine market is displaying strength. Demand from the paper mills is persistent. Prices are holding to schedule. Chlorine is quoted at from $2.00 to $2.25 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—The rosin market is firmer. The grades of gum rosin used in the paper mills are now quoted at from $5.40 to $5.70 per 280 pounds, in barrels, at works; while wood rosin is selling at $4.20 per 280 pounds, in barrels, at southern shipping points.

SALT CAKE.—Steadiness prevails in the salt cake market. Prices remain unchanged. Salt cake is quoted at from $12 to $14 and chrome salt cake at from $12 to $12.50 per ton, at works; while foreign salt cake is selling at from $12 to $12.50 per ton, on dock.

SODA ASH.—The soda ash market is more buoyant. Contract shipments are moving in good volume. Prices are steady to firm. Quotations on soda ash, in car lots, at works, per 100 pounds, are as follows: in bulk, $1.10; in bags, $1.40; and in barrels, $1.50.

STARCH.—Most of the business transacted in the starch market was along routine lines. Prices are holding to schedule without difficulty. Special paper-making starch is quoted at $2.67 per 100 pounds, in bags; and at $2.95 per 100 pounds, in barrels, at works.

SULPHATE OF ALUMINA.—No radical changes transpired in the sulphate of alumina market. The contract movement is seasonal. Commercial grades are still quoted at from $1.35 to $1.50; while iron free is selling at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—The sulphur market continues steady. Sulphur is quoted at $18 per long ton, on orders of 1,000 tons, or over, on yearly contracts; and at $20 per ton on any smaller quantity over that period. On spot and nearby car loads, the quotation is $21 per ton.

TALC.—Trading in the talc market is rather light at present. Prices are holding to formerly quoted levels. Domestic talc is quoted at from $16 to $18 per ton, in bulk, at eastern mines; while imported talc is selling at from $23 to $30 per ton, on dock.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	6.50	@	—
Bonds	6.00	@	—
Index	6.00	@	—
Writings—			
Extra Superfine	6.50	@	—
Superfine	6.25	@	—
Tub sized	5.75	@	—
Engine sized	5.50	@	—
Book, Cased—			
S. & S. C.	5.35	@	5.75
S. & S. C. Litho.	5.60	@	6.00
M. F.	5.10	@	5.50
Coated and Enamel	5.90	@	6.55
Coated Litho	5.90	@	6.55
Tissues—Per Ream—			
White No. 1	.60	@	.80
White No. 2	.55	@	.70
Anti-Tarnish M. G. only	.75	@	.80
Colored	.80	@	1.00
Kraft	.75	@	.80
Manila	.65	@	.70
Manila—			
No. 1 Jute	9.00	@	9.25
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.00	@	5.25
No. 2 Wood	3.50	@	4.00
Butchers	3.37½	@	—
Fibre Papers—			
No. 1 Fibre	4.25	@	5.50
No. 2 Fibre	4.00	@	4.75
Common Bogus	1.50	@	3.00
Screenings	2.00	@	3.00
Card Middles	4.00	@	5.00
Glassine—			
Bleached, basis 25 lbs., No. 1	.11	@	—
No. 2	.10	@	—
Bleached, basis 20 lbs.	.13	@	—

(Delivered New York)

News, per ton—			
Roll, contract	40.00	@	—
Rolls, spot	40.00	@	—
Sheets	45.00	@	—
Side Runs	25.00	@	—
Kraft—			
No. 1 Domestic	4.75	@	5.00
No. 2 Domestic	3.87½	@	—
Southern	3.87½	@	—
Boards—per ton—			
News	45.00	@	50.00
Chip	42.50	@	47.50
Sgl. Mla. Ll. Chip	52.50	@	55.00
Jute Lined Chip	52.50	@	55.00
White Patent Coated	60.00	@	65.00
Binders Boards	68.00	@	72.00

Mechanical Pulp

(On Dock, Atlantic Ports)

No. 1 Imported—			
Moist	25.00	@	27.00
Dry	25.00	@	28.00

(F.o.b. Mill)

No. 1 Domestic and Canadian	22.00	@	28.00

Chemical Pulp

(On Dock, Atlantic, Gulf and West Coast Ports)

Bleached Sulphite (Domestic and Foreign)—			
Division 1	2.85	@	—*
Division 2	2.80	@	—*
Division 3	2.75	@	—*
Prime Qualities—			
Class 1. All Prime Easy Bleaching	2.25	@	—*
Other Than Easy Bleaching—			
Class 2. Higher Than Standard	2.20	@	—*
Class 3. Standard	2.15	@	—*
Class 4. Lower than Standard	2.10	@	—

(On Dock, Atlantic Ports)

Kraft No. 1	1.75	@	1.90
Kraft No. 2	1.60	@	1.70

(F.o.b. Pulp Mill)

Kraft Domestic (Delivered)	1.60	@	2.75
Soda Bleached	2.50	@	—

* Add 5 Cents for Albany and 15 Cents for Lake Ports.

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1	6.50	@	7.00
Silesias No. 1	4.25	@	4.50
New Unbleached	6.75	@	7.25
New Soft Blacks	3.00	@	3.25
Blue Overall	4.00	@	4.25
Fancy	2.50	@	2.75
Washables	1.75	@	2.00
Mixed Khaki Cuttings	3.00	@	3.25
O. D. Khaki Cuttings	3.75	@	4.00
Men's Corduroy	1.50	@	1.75
New Mixed Blacks	2.50	@	2.75

Old Rags

White, No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	2.75	@	3.25
White, No. 2—			
Repacked	1.75	@	2.25
Miscellaneous	1.50	@	1.75
Thirds and Blues—			
Repacked	1.50	@	1.75
Miscellaneous	1.25	@	1.50
Black Stockings	2.50	@	3.00
Roofing Rags—			
No. 1	1.00	@	1.15
No. 2	.70	@	.75
No. 3	.60	@	.70
No. 4	.55	@	.60
No. 5A	.50	@	.55

Foreign Rags

New Rags

New Dark Cuttings	1.60	@	1.70
New Mixed Cuttings	1.75	@	1.85
New Light Silesias	3.75	@	4.00
Light Flannelettes	3.75	@	4.00
Unbleached Cuttings	6.50	@	6.75
New White Cuttings	6.50	@	6.75
New Light Oxfords	3.25	@	3.50
New Light Prints	2.75	@	3.00

Old Rags

No. 1 White Linens	7.50	@	8.00
No. 2 White Linens	6.50	@	7.00
No. 3 White Linens	4.50	@	5.00
No. 4 White Linens	2.25	@	2.50
No. 1 White Cotton	3.75	@	4.00
No. 2 White Cotton	3.00	@	3.25
No. 3 White Cotton	2.50	@	2.75
No. 4 White Cotton	1.90	@	2.15
Extra Light Prints	2.00	@	2.25
Ord. Light Prints	1.75	@	1.85
Med. Light Prints	1.55	@	1.65
Dutch Blue Cottons	1.75	@	1.85
French Blue Linens	2.30	@	2.40
German Blue Linens	2.15	@	2.25
German Blue Cottons	1.70	@	1.80
Checks and Blues	1.30	@	1.40
Linsey Garments	1.50	@	1.75
Dark Cottons	1.15	@	1.30
Old Shopperies	1.00	@	1.10
New Shopperies	.90	@	1.00
French Blues	1.70	@	1.80

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

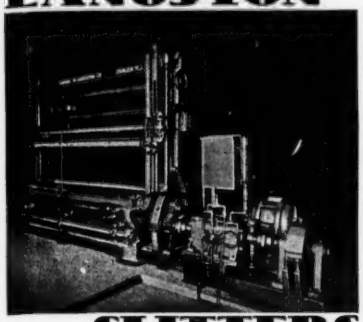
Gunny No. 1—			
Foreign	1.40	@	1.50
Domestic	1.30	@	1.40
Wool Tares, light	1.15	@	1.25
Wool Tares, heavy	1.20	@	1.30
Bright Bagging	1.15	@	1.20
Manila Rope—			
Foreign	2.40	@	2.50
Domestic	2.50	@	2.75
Small Mixed Rope	1.10	@	1.35
New Burlap Cut	2.00	@	2.25
Hessian Jute Threads—			
Foreign	2.60	@	2.75
Domestic	2.80	@	3.00

Old Waste Papers

(F. o. b. New York)

Shavings—			
White Envelope Cuttings	2.55	@	2.65
Ordinary Hard White No. 1	2.30	@	2.40
Hard White No. 2	2.00	@	2.10
Soft White No. 1	1.85	@	1.95
Flat Stock—			
Stitchless	.90	@	.95
Overissue Mag.	.90	@	1.00
Solid Flat Book	.70	@	.80
Crumpled No. 1	.55	@	.65
Solid Book Ledger	1.50	@	1.65
Ledger Stock	.95	@	1.05
New B. B. Chips	.30	@	.35
Manilas—			
New Env. Cut	1.60	@	1.70
New Cuttings	1.15	@	1.25
Extra No. 1 old	.75	@	.85
Print	Nominal		
Bogus Wrapper	.40	@	.50
Container	Nominal		
Old Kraft Machine—			
Compressed bales	1.10	@	1.30
News—			
No. 1 White News	1.25	@	1.30
Strictly Overissue	.70	@	.75
Strictly Folded	.50	@	.55
No. 1 Mixed Paper	.28	@	.33

LANGSTON



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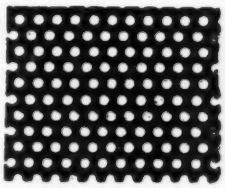
For Pulp and Paper Mills



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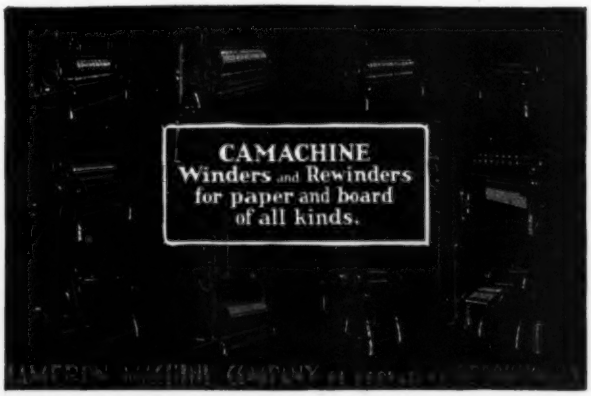


Twines
(F. o. b. Mill)

Cotton—			
B. C. 18 basis	.30	@	.32
No. 1	.20	@	.22
No. 2	.19	@	.20
No. 3	.17	@	.18
A. Italian, 18 basis	.36	@	.37
Finished Jute—			
Dark, 18 basis	.18	@	.20
Light, 18 basis	.20	@	.22
Jute Wrapping, 3-6 Ply—			
No. 1	.15½	@	.16½
No. 2	.15	@	.16
Tube Rope—			
4-ply and larger	.09¼	@	.09¾
Fine Tube Rope—			
4-ply	.11¼	@	.11¾
3-ply	.14¼	@	.14¾
2-ply	.14¼	@	.14¾
Paper Makers Twine	.08¼	@	.13¼
Box Twine, 2-3 ply	.14¼	@	.14¾
White Hemp	.13¼	@	.16¾
Java Sisal—			
No. 1 Basis	.11½	@	—
No. 2 Basis	.10½	@	—
New Zealand Sisal	.11½	@	—
Sisal Lath Yarn—			
No. 1	.13½	@	.15½
No. 2	.11½	@	.13½
Manila Twine	.24½	@	.29½

CHICAGO

Paper
(F. o. b. Mill)

Rag Bond	.12	@	.50
Water Marked Sulphite Bond	.06¼	@	.15
Sulphite Bond	.05½	@	.15
Superfine Writing	.18	@	.24
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¼	@	.07¼
No. 2 S.&S.C. Book	.05¼	@	.06½
Coated Book	.07	@	.12
Coated Label	.07	@	.08½
No. 1 Manila	.04¼	@	.05½
No. 1 Fibre	.04¼	@	.05½
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.03¼	@	.03¾
No. 1 Kraft	4.75	@	5.00
Southern Kraft	3.88	@	4.25
No. 2 Kraft	3.88	@	4.25
Wood Tag Boards	.04¼	@	.04¾
Sulphite Screenings	.03	@	.03¼
Manila Tissue	.05¼	@	.07
White Tissue	.07	@	.09

(Delivered Central Territory)

News, per ton—			
Rolls, contract	41.00	@	—
Sheets, open	46.00	@	51.00
Boards, per ton—			
Plain Chip	37.50	@	—
Solid News	43.50	@	—
Manila Lined Chip	47.50	@	—
Patent coated	55.00	@	—
Container Lined—			
85 Test	60.00	@	65.00
100 Test	60.00	@	70.00

Old Papers
(F. o. b. Chicago)

Shavings—			
No. 1 White Envelope cuttings	1.70	@	1.80
No. 1 Hard White	1.40	@	1.50
No. 1 Soft White	1.20	@	1.30
Ledger & Writings	.70	@	.80
Solid Books	.60	@	.70
Blanks	1.00	@	1.05
Kraffs	.80	@	.90
New Kraft Cuts	1.20	@	1.30
Manila Env. Cuts	1.25	@	1.30
Ex. No. 1 Manila	.90	@	1.00
Print Manila	.50	@	.55
Overissue News	.60	@	.70
Old Newspapers—			
No. 1	.50	@	.55
Mixed Papers—			
No. 1	.30	@	.35
Roofing Stocks—			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper
(F. o. b. Mill)

Bonds	.04	@	.40
Ledgers	.06	@	.40
Writings—			
Superfine	.10	@	.18
Extra Fine	.15	@	.26
Fine	.15	@	.26
Fine, No. 2	.10	@	.25
Fine No. 3	.05½	@	.18
Book, M. F.	.04¼	@	.07
Book, S. S. & C.	.05	@	.07½
Book, Coated	.06	@	.16
Coated Lithograph	.06	@	.11
Label	.07	@	.11
No. 1 Jute Manila	.06	@	.10
Manila Sul., No. 1	.03	@	.06
Manila No. 2	.03	@	.05
No. 1 Kraft	.05¼	@	.06½
No. 2 Kraft	.03¼	@	.05
Southern Kraft	2.75	@	4.00
Common Bogus	.03	@	.04½

(Delivered Philadelphia)

News Print Rolls	46.00	@	55.00
Straw Board	40.00	@	45.00
News Board	50.00	@	—
Chip Board	45.00	@	—
Wood Pulp Board	70.00	@	85.00
Binder Boards—			
No. 1, per ton	75.00	@	80.00
No. 2, per ton	70.00	@	75.00
Carload lots	65.00	@	70.00
Tarred Felts—			
Regular	52.25	@	54.25
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1.50	@	1.60
Best Tarred, 3-ply	2.00	@	2.25

Domestic Rags (New)
(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.03½	@	.04
New White, No. 2	.02½	@	.04
Light Silesias	.02½	@	.03
Silesias, No. 1	.03	@	.03½
Black Silesias, soft	.02½	@	.03
New Unbleached	.03	@	.05½
Washable, No. 1	.01½	@	.02
Blue Overall	.03½	@	.04
Cottons—According to grades—			
Washable, No. 2	.02½	@	.03
New Blue	.01½	@	.03
Fancy	.01½	@	.03
New Black Soft	.02	@	.04
New Light Seconds	.01½	@	.02
New Dark Seconds	1.50	@	1.75
Khaki Cuttings—			
No. 1 O.D.	.03	@	.04
No. 2 Mixed	.03	@	.04
Corduroy	.02	@	.03
New Canvas	.03½	@	.04½
New Black Mixed	.02½	@	.03½

Domestic Rags (Old)

White No. 1—			
Repacked	2.50	@	3.50
Miscellaneous	1.75	@	2.25
M. G.	3.00	@	3.75
Thirds and Blues—			
Miscellaneous	1.00	@	1.50
Repacked	1.50	@	2.00
Black Stockings (Export)	2.00	@	3.50
Roofing Stock—			
Foreign No. 1	.50	@	.75
Repacked	.70	@	.85

Bagging
(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.25	@	1.50
Domestic	1.50	@	1.75
Manila Rope	2.00	@	2.25
Sisal Rope	1.25	@	1.50
Mixed Rope	1.00	@	1.10
Scrap Burlaps—			
No. 1	1.25	@	1.50
No. 2	.80	@	1.00
Wool Tares, heavy	2.75	@	—
Mixed Strings	1.15	@	1.25
No. 1 New Light Burlap	2.25	@	2.50
New Burlap Cuttings	2.00	@	2.25

Old Papers
(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	2.25	@	2.30
No. 2 Hard White	2.00	@	2.10
No. 1 Soft White	2.05	@	2.10
No. 2 Soft White	1.15	@	1.25
No. 1 Mixed	.95	@	1.00
No. 2 Mixed	.75	@	.80
Solid Ledger Stock	1.50	@	1.60
Writing Paper	1.05	@	1.10
No. 1 Books, heavy	.90	@	1.00
No. 2 Books, light	.70	@	.80
No. 1 New Manila	1.20	@	1.50
No. 1 Old Manila	.85	@	.90
Print Manila	.75	@	.80
Container Manila	.55	@	.60
Old Kraft	1.00	@	1.10
Common Paper	.35	@	.40
No. 1 Mixed Paper	.35	@	.40
Straw Board Chip	.35	@	.40
Binders Board Chip	.35	@	.40
Corrugated Board	.50	@	.60
Overissue News	.55	@	.60
Old Newspapers	.40	@	.50

BOSTON

Paper
(F o. b. Mill)

Ledgers—			
Sulphite	.06	@	.12½
Rag Content	.12	@	.30
All Rag	.36	@	.52½
Bonds—			
Sulphite	.05½	@	.11
Rag Content	.12	@	.40
All Rag	.36	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¼	@	.06½
Manila, Sul. No. 2	.03¼	@	.04½
No. 1 Kraft	.04¼	@	.05
No. 2 Kraft	.03½	@	.04¼

(F. o. b. Boston)

Southern Kraft	.03½	@	.04¼

(F. o. b. destination in carload lots, f. o. b. mill in less than carload lots.)

Common Bogus	.02	@	.02¼

(Delivered New England points)

News Print, rolls	44.50	@	—
Straw Board, rolls	.009	—	35.00
Straw Board in Sheets, basis 35s to 70s	—	@	40.00
Filled News Board	45.00	@	50.00
Chip Board	42.50	@	47.00
Chip Board (Creasing)	45.00	@	—
Single Manila Lined Chip	52.50	@	62.50
Single White, Patent Coated News Board—Bender	62.50	@	72.50
Wood Pulp Board	70.00	@	75.00
Binder Boards	62.00	@	75.00

Old Papers
(F. o. b. Boston)

Shavings—			
No. 1 Hard White	2.40	@	—
No. 1 Soft White	1.75	@	2.00
No. 2 Mixed	.75	@	.80
Solid Ledger Books	1.40	@	1.50
Overissue Ledger Stock	1.15	@	1.30
Mixed Ledgers	1.00	@	1.10
No. 1 Books, heavy	.85	@	.95
No. 1 Books, light	.65	@	.75
Crumpled Stitchless Book Stock	.50	@	.60
Manila Env. Cuttings	1.25	@	1.30
No. 1 Old Manila	.95	@	1.05
White Blank News	1.15	@	1.25
No. 1 Kraft	1.05	@	1.10
Manila	.75	@	.80
No. 1 Mixed Papers	.27½	@	.30
Print Manila	.45	@	.50
Overissue News	.55	@	.60
Old Newspapers	.47½	@	.50
Box Board Chips	.32½	@	.35
Corrugated Boxes	.35	@	.40
Screening Wrappers	.60	@	.70

Bagging
(F. o. b. Boston)

Manila Rope—			
Foreign	2.50	@	—
Domestic	—	@	2.50
Transmission Rope	1.60	@	—
Mixed Strings	—	@	.60
Jute Rope	1.15	@	1.35
Jute Carpet Threads	.65	@	.70
Gunny No. 1—			
Foreign	1.45	@	1.50
Domestic	1.00	@	1.10
Bleachery Burlap	3.00	@	3.25
No. 1 Scrap Burlap	1.00	@	1.10
Scrap Sisal	1.25	@	1.35
Scrap Sisal for shredding	1.25	@	1.35
Wool Tares, heavy	1.25	@	1.30
New Burlap Cuttings	1.35	@	1.60
Australian Wool Pouches	2.25	@	2.50
Heavy Baling Bagging	1.40	@	1.50
Paper Mill Bagging	.90	@	1.10
Bagging No. 2	.40	@	.50

Domestic Rags (New)
(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints	.02	@	.02¼
New White No. 1	.06½	@	—
New White No. 2	.04½	@	.05
Silesias No. 1	.04	@	—
New Black Silesias	.02½	@	.03
New Unbleached	.07	@	.07¼
Blue Cheviot	—	@	4.65
Fancy	—	@	.02½
Washable	.02¼	@	—
Cottons—According to grades—			
Blue Overalls	—	@	.03¼
New Black, soft	.04	@	.04½
Khaki Cuttings	.03	@	.03¼
O. D. Khaki	.03	@	.03¼
Corduroy	.01¾	@	.02
New Canvas	—	@	.05
B.V.D. Cuttings	—	@	.06¼

Domestic Rags (Old)
(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	2.00	@	2.25
White No. 2—			
Repacked	2.00	@	2.25
Miscellaneous	2.00	@	2.75
Twos and Blues	1.25	@	1.50
Thirds and Blues			
Repacked	1.10	@	1.25
Miscellaneous	.85	@	.90
Black Stockings	2.25	@	2.50
Roofing Stock—			
No. 1	.75	@	1.05
No. 2	.65	@	.75
No. 3	.50	@	.70

Foreign Rags
(F. o. b. Boston)

Dark Cottons	1.25	@	1.40
New White Shirt Cuttings	5.50	@	6.00
Dutch Blues	2.00	@	2.50
New Checks & Blues	2.50	@	3.00
Old Fustians	1.55	@	1.60
Old Linsey Garments	1.40	@	1.50

TORONTO

Paper
(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.10¼	@	—
No. 2 Sulphite	.08½	@	—
No. 1 Colored	.10¼	@	—
No. 2 Colored	.09	@	.10
Ledgers (sulphite)			
Ledgers, No. 1	.34½	@	—
Ledgers, No. 2	.25½	@	—
Writing	.09	@	.09½
Book—			
No. 1 M. F. (Carloads)	6.20	@	—
No. 3 M. F. (Carloads)	5.70	@	—
No. 4 M. F. (carloads)	4.75	@	—
No. 1 S. C. (carloads)	6.65	@	—
No. 3 S. C. (carloads)	6.20	@	—
No. 4 S. C. (carloads)	5.20	@	—
No. 1 Coated and Litho	12.00	@	—
No. 2 Coated and Litho	10.50	@	—
No. 3 Coated and Litho	9.50	@	—
Coated tinted	14.00	@	—
Wrapping—			
Rag Brown	4.25	@	—
White Wrap	2.22½	@	—
"B" Manila	4.75	@	—
No. 1 Manila	5.25	@	—
Fiber	5.25	@	—
Kraft, M. F.	5.75	@	—
Kraft No. 2	5.25	@	—

(F.O.B. Cars Toronto)

News, per ton—			
Rolls (contract)	45.50	@	—
Sheets	50.50	@	—

Pulp
(F. o. b. Mill)

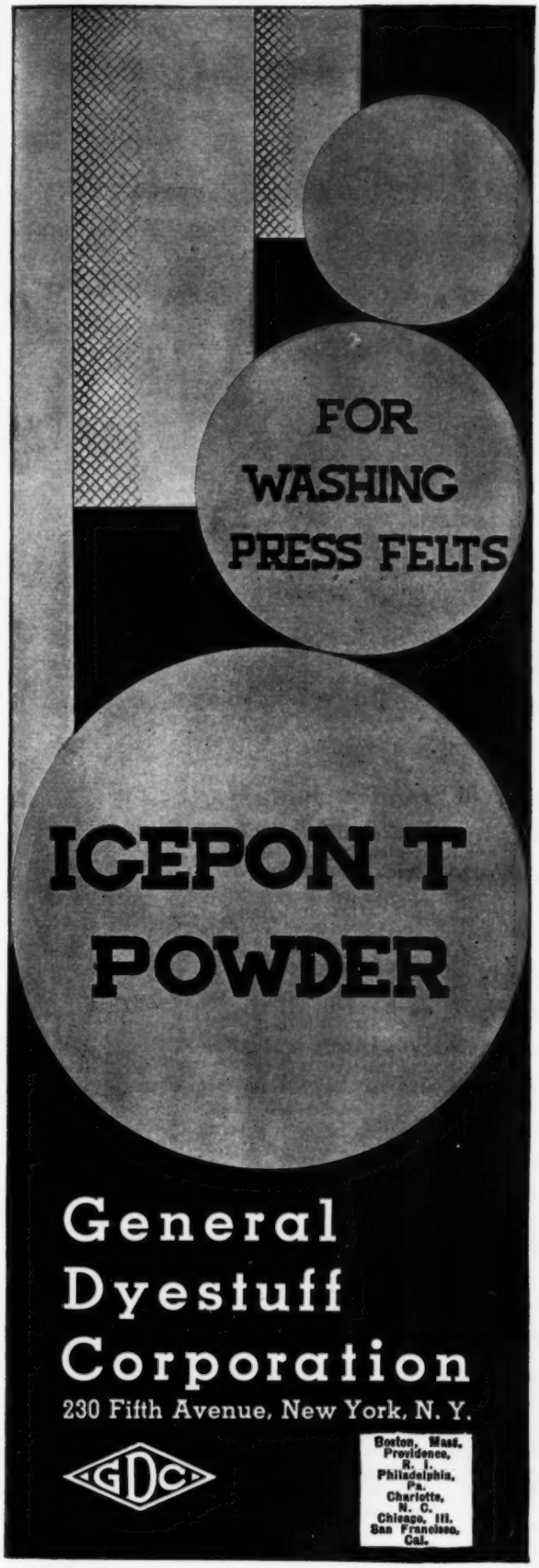
Ground Wood	18.00	@	20.00
Sulphite easy bleaching	40.00	@	—
Sulphite, news grade	38.00	@	—
Sulphite, bleached	50.00	@	55.00
Sulphate	50.00	@	—

Old Waste Paper
(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	2.00	@	2.10
Soft White	1.60	@	1.90
White Blk. News	1.25	@	1.50
Book and Ledger—			
Flat Magazine and Book Stock (old)	.90	@	1.00
Light and Crumpled Book Stock	.80	@	.90
Ledgers and Writings	1.00	@	1.05
Manilas—			
New Manila Cut	1.25	@	1.50
Printed Manilas	.70	@	—
Kraft	1.25	@	1.50
News and Scrap—			
Strictly Overissue	1.00	@	—
Strictly Folded	.70	@	—
No. 1 Mixed Paper	.60	@	—

Domestic Rags
(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.05¼	@	.05½
Fancy Shirt Cuttings	.02¼	@	.02½



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